REGULAR MEETING AGENDA
Revised – Tuesday, January 16
JEFFERSON COUNTY COMMISSION
FIRST QUARTERLY SESSION JANUARY–MARCH 2024
THURSDAY, JANUARY 18, 2024
6:00 P.M.
County Commission Meeting Room
Old Charles Town Library
200 E. Washington Street, Charles Town, WV

CALL TO ORDER

PRAYER – Anthony Aaron, Grace Baptist Church

PLEDGE OF ALLEGIANCE

APPROVAL OF MINUTES

- December 21, 2023 Regular Meeting
- January 4, 2024 Regular Meeting

APPROVAL OF REQUISITIONS

- January 18, 2024

APPROVAL OF ACCOUNTS PAYABLE

- January 11, 2024
- January 18, 2024

APPROVAL OF MANUAL CHECKS

- January 12, 2024
- January 19, 2024

APPROVAL OF PAYROLL

- January 5, 2024

ANNOUNCEMENTS

Report if there are changes in the agenda if applicable

PUBLIC COMMENT

***You may participate in public comment during the virtual meeting by raising your hand. Please submit comments via email to info@jeffersoncountywv.org. Your name will be included in the minutes and any written comments submitted will be published in the following agenda under Correspondence & Information.*

PRESENTATIONS

1. 6:10 p.m. Angela Banks, Assessor
   - Exonerations

2. 6:20p.m. Jacqueline Shadle, County Clerk
- New Hire Approval for Full-time Probate Clerk

3. 6:30 p.m. Martin Burke, Chair, Jefferson County Historic Landmarks Commission
- Request to open the Jefferson County Courthouse on Saturday, April 13, 2024 to celebrate the designation of the Courthouse as a National Historic Landmark

4. 6:45 p.m. Interviews & Appointments to the following:
- Jefferson County Board of Zoning Appeals – two three-year terms ending January 1, 2027
- Eastern Panhandle Transit Authority – two three-year terms ending January 31, 2027

5. 7:00 p.m. Public Hearing re: Application of G&S Properties, LLC, RAI Properties, LLC, pursuant to WV Code 7-1-3H, 1931 as Amended – Petition of Right of Way/Easement of Abandonment that bisects Lots 43B and 42B in the Burr Industrial Park
- Approval of Order to vacate and abandon old, unused road pursuant to WV Code 7-1-3H

6. 7:15 p.m. Elizabeth Wheeler, Director, Jefferson County Farmland Protection
- Approval of Purchase on two Agricultural Conservation Easements: Aspen Pool and Willis

7. 7:30 p.m. Dan Murphy, Greenway Engineering
- Request to Schedule Public Hearing re: Harvest Hills Subdivision Phase II Zoning Map Amendment request for subject parcels owned by Arcadia Land, Inc. and identified as District 9, Tax Map 24, Parcel(s) 12 & 13

8. 7:40 p.m. Todd Wilt, City Manager, City of Ranson
- City of Ranson Request for Annexation: District 2; Map 08; Parcel 29.3, Parcel ID: 0008-0029-0003, as provided by WV Code 8-6-4 & 8-6-4a

9. 7:55 p.m. Douglas Rockwell, Citizen
- Request for Payment of Attorney fees and costs for Civil Action Nos. CC-19-2021-C-33, 34,35, 36, & 37

10. 8:10 p.m. Dick Myers, Deputy Director, Jefferson County Homeland Security & Emergency Management
- Approval to adopt the 2023 Jefferson County Multi-Jurisdictional Hazard Mitigation Plan
- Approval of release of funds to Michael Baker International in the amount of $57,000

11. 8:25 p.m. Nathan Cochran, Assistant Prosecuting Attorney

a. Discussion of legal issues and potential action regarding past and current solar litigation, including Jefferson County Circuit Court Civil Action No. 2020-C-112 [Rockwell v. JCC, JCPC, and JCBZA] and WV Supreme Court of Appeals No. 23-0369 (appeals of Jefferson County Circuit Court Civil Action No. 2022-C-141)

b. Memorandum of Understanding for JC Department of Homeland Security and Emergency Management

c. Report by Counsel on the status of the advisory opinion regarding the Planning Commission committee meetings.

d. Discussion of legal issues and potential action regarding Jefferson County Circuit Court Civil Action No. 2023-C-266 [Adam McDowell, individually and on behalf of Shannondale Vista Association v. JCPC and JCC]

e. Discussion of legal issues and potential action regarding Jefferson County Circuit Court Civil Action No. 2023-P-112 [JCC v. Steve Cox]

f. Consider matters involving or affecting the construction, planning, purchase, sale, or lease of property.

NEW BUSINESS

12. Update to the County Commission from Nathan Cochran on the advisory opinion request from the Ethics Commission related to the Planning Commission and its subcommitees abiding by the Open Meetings Act (TJ)

13. Discussion and possible action on revisiting Agenda Policy 900 to clarify when/how agenda items may be declined (JK)

14. Continuity of Emergency Service Protocol (PM)

INTERIM COUNTY ADMINISTRATOR REPORTS

- Legislative Summary
- Update on hiring solicitations
- Emergency Services Agency onboarding
- Update on TIF lawyer
- Draft Budget schedule
- BORE Workshop date request (action requested)
- Follow-up re: Harvest Hills vote
- Follow-up re: amplified sound/text display of proposed motions
- Boards training
- CoxHollidaYoung engagement letter (action requested)

15. ADJOURN

CORRESPONDENCE AND INFORMATION

2024 Notice of Board of Review & Equalization

Notice of Public Input Meeting – Mapping Jefferson County's Future

Jefferson County Historic Landmarks Commission – 2023 Q4 Quarterly Report

Year-to-Date Budget Report for December 2023

December 2023 Impact Fee Status Report

Public Comment received from the following: David Tabb, Bob Aitcheson

At all times the County Commission reserves the right to rearrange agenda times because of time constraints and to accommodate the Commission schedule or the public.

Minutes

Jefferson County Commission

Thursday, December 21, 2023

A meeting of the Jefferson County Commission was held on Thursday, December 21, 2023, during the third quarterly session at 6:00 pm. The meeting was held via GoToWebinar and in-person. Present were President Steve Stolipher, Commissioner Tricia Jackson, Commissioner Jennifer Krouse, Commissioner Pasha Majdi and Commissioner Jane Tabb. Also present were Nathan Cochran, assistant prosecuting attorney, Jacki Shadle, County Clerk and Sorayda Pitts, Administrative Assistant. The archived meeting of the Thursday, December 21, 2023, meeting is available on the Jefferson County Commission website.

PRAYER- Pastor Craig Bush- Grace Baptist Church

APPROVAL OF MINUTES

Motion by Mr. Stolipher to approve the December 7, 2023, regular Minutes. Motion seconded and unanimously approved.

Motion by Mr. Stolipher to approve the December 11, 2023, Special Session Minutes. Motion seconded and unanimously approved.

APPROVAL OF PAYROLL

Motion by Mr. Stolipher to approve the Payroll for December 9, 2023, in the amount of $314,904.91. Motion seconded and unanimously approved.

APPROVAL OF ACCOUNTS PAYABLE

CHECK NUMBER		VENDOR NAME	UNCLEARED
88940		AMANDA MILLER	139.20
88941		AMERIFLEX	126.65
88942		CAMPBELL FLANNERY PC	17,937.75
88943		FRONTIER	55.00
88944		FRONTIER	2.25

88945		FRONTIER	7,263.14
88946		FRONTIER	162.78
88947		FRONTIER	979.97
88948		FRONTIER	120.99
88949		FRONTIER	209.29
88950		GUTTMAN OIL CO	5,036.73
88951		J.C. EHRLICH	795.47
88952		JOHN DEERE FINANCIAL	503.37
88953		MICHAEL MONAGHAN	119.50
88954		ROBIN KENNEDY	139.20
88955		SANDRA KELLEY	42.35
88956		UNIFIRST	99.97
88957		US BANK	64,226.44
88958		US POSTAL SERVICE	226.00
88959		W B MASON CO. INC	127.34
88960		WV REGIONAL JAIL & CORRECTION FACILITY AUTH	49,071.08
88961	AM/053	AXIOM STAFFING GROUP	1,001.20
TOTAL			148,385.67

- **Motion by Mr. Stolipher to approve the Accounts Payable for December 14, 2023, in the amount of $148,385.67. Motion seconded and unanimously approved.**

CHECK NUMBER		VENDOR NAME	UNCLEARED
88963		BUREAU OF CHILD SUPPORT	373.39
88964		COMPTROLLER OF MARYLAND	841.71
88965		CORMAC QUINN	5.40
88966		DARYLL WIMER	11.11
88967		DAVID EVERETT BOOBER	411.00
88968		DAVID WAMPLER	37.73
88969		EFTPS IRS TAXES	105,634.51
88970		EMPOWER RETIREMENT	6,557.47
88971		FEDEX	68.02
88972		GUTTMAN OIL CO	5,033.51
88973		JEFFERSON SECURITY BANK	4,085.00
88974		JOSEPH FORMAN	18.01
88975		LUKE SEIGFRIED	1,995.91
88976		MONICA ANDERSON	4,634.86
88977		NAT. ASSOC. OF EXT. 4-H YOUTH DEVELOP PROFFESIONAL	95.00
88978		NATIONWIDE RETIREMENT SOLUTIONS	1,065.00

88979		PRIORITY DISPATCH	11,114.00
88980		SOFTWARE SYSTEMS INC	1,396.70
88981		SPIRIT OF JEFFERSON	349.74
88982		STATE TAX DEPARTMENT	150.00
88983		STEVEN HOLZ	19.07
88984		UNIFIRST	199.76
88985		VA DEPT OF TAXATION	3,319.48
88986		WV DEPUTY SHERIFF RETIREMENT SYSTEM	24,462.30
88987		WV EMERGENCY MEDICAL SERVICES RETIREMENT SYSTEM	3,472.73
88988		WV PUBLIC EMPLOYEE RETIREMENT SYSTEM	46,675.45
88989		WV STATE TAX DEPARTMENT	29,893.77
88990		WVU WEST VIRGINIA UNIVERSITY	1,950.00
88991	FG/009	SHERIFF OF JEFFERSON COUNTY	8,424.62
88992	BS/011	SHERIFF OF JEFFERSON COUNTY	8,207.89
88993	AM/053	AXIOM STAFFING GROUP	1,001.20
TOTAL			271,504.34

- **Motion by Mr. Stolipher to approve the Accounts Payable for December 21, 2023, in the amount of $271,504.34. Motion seconded and unanimously approved.**

APPROVAL OF MANUAL CHECKS

		14-Dec-23	
		OTHER FUNDS	
Check #	Fund	Vendor	Amount
886	HD/008	ALLIED UNIVERSAL ELECTRONIC MONITORING US INC	2,614.40
887	HD/008	D-TRAX, LLC	712.00
888	HD008	SHERIFF OF JEFFERSON CO	91.36
1121	AV/056	GLOBAL SCIENCE & TECHNOLOGY INC	221.99
1122	AV/056	SHERIFF OF JEFFERSON COUNTY	2,330.48
279	AR/207	CITIZENS VOLUNTEER FIRE COMPANY	3,400.00
280	AR/207	INDEPENDENT VOLUNTEER FIRE COMPANY	2,400.00
281	AR/207	SHEPHERDSTOWN VOLUNTEER FIRE COMPANY	1,600.00
282	AR/207	SHERIFF OF JEFFERSON CO	898.64
1432	SI/249	SHERIFF OF JEFFERSON COUNTY	47.00
1433	LI/249	SHERIFF OF JEFFERSON COUNTY	5,089.84
1434	PI/249	SHERIFF OF JEFFERSON COUNTY	45,036.50
1435	EI/249	SHERIFF OF JEFFERSON COUNTY	4,746.30
1436	AI/249	SHERIFF OF JEFFERSON COUNTY	2,099.15
980	CW/059	HUNTZMAN ENTERPRISES	822.00
TOTAL			$72,109.66

- **Motion by Mr. Stolipher to approve the Manual Checks for December 15, 2023, in the amount of $72,109.66. Motion seconded and unanimously approved.**

		21-Dec-23	
		OTHER FUNDS	
Check #	Fund	Vendor	Amount
332	DG/003	SHERIFF OF JEFFERSON COUNTY	73.37
889	HD/008	SHERIFF OF JEFFERSON COUNTY	1,469.79
369	FP/057	JEFFERSON CO FARMLAND PROTECTION BOARD	101,871.29
283	AR/207	SHERIFF OF JEFFERSON COUNTY	13,247.12
1865	CO/246	MOTOROLA SOLUTIONS INC	61,593.42
157	IP/249	MINGHINI'S	2,850.00
133	IS/249	JEFFERSON COUNTY BOARD OF EDUCATION	1,276,081.00
134	IS/249	JEFFERSON COUNTY BOARD OF EDUCATION	2,166,204.20
1123	AV/056	SEGRA	653.14
TOTAL			$3,624,043.33

- **Motion by Mr. Stolipher to approve the Manual Checks for December 22, 2023, in the amount of $3,624,043.33. Motion seconded and unanimously approved.**

PUBLIC COMMENT: Marilyn White, Denise Nick, Jacquelyn Milliron, Gale Bard, David Tabb, Doug Rockwell, Bob Aitcheson, Richard Zigler.

PRESENTATIONS

2. Angie Banks- Assessor- Requested -Promotion/ Job Reclassification

- **Motion by Mrs. Tabb to approve the promotion of Victoria Myers from a Grade 7 to Grade 8 as a mapping specialist, 1T and Archivist with a $10,000 pay increase. Motion seconded and unanimously approved.**

2. Tom Hansen, Sheriff -Tax Deputy – Requested

   a. Tax Deputy-Hire

- **Motion by Mr. Stolipher to approve the hire of Brittni Fletcher as an 80 hour Tax Deputy beginning December 26, 2023, with a starting salary of 35,000.00. Motion seconded and unanimously approved.**

b. New Hire -Part-time Bailiff -New Hire

- **Motion by Mr. Stolipher to approve the hire of Kathleen O'Connor as a part-time Bailiff beginning January 2, 2024, at a rate of $17 per hour. Motion seconded and unanimously approved.**

3. Jackie Shadle-County Clerk- Requested

a. Clarification on Benefit Package for Ambulance Fee Position.

Motion Mr. Stolipher to make Pam Eddy a county employee and be eligible for the county benefits. Motion seconded and unanimously approved.

b. New Hire approval for part-time Finance Clerk

- **Motion by Mr. Stolipher to approve the hire of Kelly Campbell as a part-time finance clerk with a pay rate of $20.00 per hour with a start date of January 22, 2024. Motion seconded and unanimously approved.**

4. Bryan Sutherland & Greg Sager- Jefferson County Little League- Requested

- **Motion by Mr. Stolipher to provide Jefferson County Little League with $113,000.00 to help fund the replacement of the lights on the Little League baseball field, to come out of ARPA funds. Motion seconded and unanimously approved.**

5. Nathan Cochran- Prosecuting Attorney's Office- Presentation of Briefs in the Estates of Sherry Ellen Hoffman and Richard Walter Accurso, deceased.

Motion by Mrs. Tabb to convene as a Fiduciary Review Board. Motion Seconded and unanimously approved.

Motion by Mrs. Tabb to adjourn as a Fiduciary Board and reconvene in regular session. Motion seconded and unanimously approved.

- **Motion by Mr. Majdi to refer the case back to Frank Hill-Fiduciary Commissioner and to report back to the commission. Motion Seconded and unanimously approved.**

6. James B Crawford, Ill, Esquire, Crawford Law Group, PLLC- Requested to receive Petition of ROW/Easement Abandonment and schedule Public Hearing pursuant to Section 7-1-3, Code of West Virginia, 1931, as amended.

   - **Motion by Mr. Stolipher to accept the Petition filed on behalf of RAI Properties, LLC and G&S Properties, LLC and to Schedule a Public Hearing for January 18, 2023. Motion seconded and unanimously approved.**

7. Jefferson County Civil Service-

   a. Interview/Appointment to the Jefferson County Deputy Sheriff Civil Service Commission -one unexpired term ending September 29, 2025.

      Will Liston

      James Crawford

   - **Motion by Mr. Stolipher to appoint James Crawford as the citizen representative for the Jefferson County Deputy Sheriff Civil Service Commission for one unexpired term ending September 29, 2025. Motion seconded and unanimously approved.**

8. Roger Goodwin- Engineering, Planning & Zoning- Requested

   a. Beallair Homes, LLC-Beallair Subdivision, Phase 2 (File #05-41) complete bond release re-securing with a new performance bond provider.

   - **Motion by Mr. Stolipher to authorize a complete release of Performance Bond #BRIFSU0613433 with International Fidelity Insurance Company,**

Hunt Valley, MD, in the amount of $272,333.55 for Beallalr Homes, LLC-Beallair Subdivision, Phase 2 (File 05-41). Motion seconded and unanimously approved.

b. Beallalr Homes, LLC -Beallair Subdivision, Phase 3 (Ale #21-31-SD) complete bond release re-securing with a new performance bond provider.

- **Motion by Mrs. Tabb to authorize a complete relcase of Performance Bond #1092062 with The Hanover Insurance Company, Worcester, MA, in the amount of $1,948,535.00 for Beallair Homes, LLC-Beallair Subdivision, Phase 3 (File 21-31-SD). Motion seconded and unanimously approved.**

c. Beallair Homes, LLC -Beallair Subdivision, Phase 4A (File #19-16-SD) complete bond release re-securing with a new performance bond provider.

- **Motion by Mrs. Tabb to authorize a complete release of Performance Bond #1086065 with The Hanover Insurance Company, Worcester, MA, in the amount of $905,157.00 for Beallair Homes, LLC -Beallair Subdivision, Phase 4A3 (File 19-16-SD). Motion seconded and unanimously approved.**

9. Mike Sine-Director of Jefferson County Emergency Services Agency Requested- 4 Promotions w/Salary adjustments

- **Motion by Mrs. Tabb to approve Ronnie Shutts FF/EMT Ill an increase in hourly rate for 10 years of previous career work experience in accordance with AP1192. His new ratc will be $24.92 per hour effective December 17, 2023. Motion seconded and unanimously approvcd.**

- **Motion by Mrs. Tabb to approve Matthew Minnick a promotion from FF/AEMT Technician to FF/Paramedic Ill. His new pay rate will be $25.45 per hour effective December 17, 2023. Motion seconded and unanimously approved.**

- **Motion by Mrs. Tahb to approve Brice Billings a promotion from FF/AEMT Technician to FF/Paramedic Ill. His new pay rate will be $25.00 per hour effective December 17, 2023. Motion seconded and unanimously approvcd.**

- **Motion by Mrs. Tabb to approve McKenzie Pattison a promotion from FF/AEMT I to FF/Paramedic I. Her new pay rate will be $25.00 per hour effective December 17, 2023. Upon completion of her probationary period and meeting the requirements of AP1060 she will now receive the corresponding promotion to FF/Paramedic II. Motion seconded and unanimously approved.**

10. Selection of Interim County Administrator-

Commissioner Jackson and Commissioner Krouse voiced concern about the workload and responsibility of holding two, executive-level offices. Additionally Commissioner Jackson and Commissioner Krouse voiced desire to nominate additional applicants.

- **Motion by Mr. Majdi to appoint Edwina Benites as the Interim County Administrator. Motion passed on a 3-2 vote with Commissioner Majda, Commissioner Stolipher and Commissioner Tabb voting for and Commissioner Jackson and Commissioner Krouse voting against.**

11. Nathan Cochran- Prosecuting Attorney's Office-

a. Report by counsel on opioid case and consideration of recent developments in the case (Jefferson County Commission v. Purdue Pharmaceutical, et al. US District Court, Northern District of West Virginia, Civil Action #1:17OP-45170, MDL 17-md-02804-DAP In Re: National Prescription Opiate Litigation; State of West Virginia ex rel. Patrick Morrisey, Attorney General v. Walgreens Boots Alliance, Inc., et al., Civil Action No. 20-C-82 PNM (W. Va. Cir.Ct. Putnam County) (the "West Virginia AG Action"), pending within In re: Opioid Litigation, Civil Action No. 21-C-9000 (W. Va. Cir. Ct. Kanawha County) and related matters.

b. Discussion of legal issues and potential action regarding proposed Solar Text Amendment to the Jefferson County Zoning and Land Development Ordinance, File #ZTA22-01. Discussion of Jefferson County Circuit Court Civil Action No.'s 2021-C-33 through 37 and Jefferson County Circuit Court Civil Action No.'s 2021-C-46 through 50, Jefferson County Circuit Court Civil Action No. CC-19-2022-C-6, Jefferson County Circuit Court Civil Action No. 2022-C-81, Jefferson County Circuit Court Civil Action No. 2022-C-103, 2022-C-14 and 2023-C-112, WV Supreme Court No.'s 210727, 21-0728, and 21-0731 and WV Intermediate

Court of Appeals No. to be assigned (appeal of Jefferson County Circuit Court Civil Action No. 2022-C-141).

c. Consider matters involving or affecting the construction planning, or purchase, sale or lease of property.

d. Discussion of wage issue regarding Deputy Sheriffs.

e. Preliminary Report by Council as directed by the Commission on December 7, 2023 regarding Fire Levy.

- **It was advised by legal counsel that the Fire Levy was not ready to move forward and additional time was needed to review it thoroughly and to consider holding multiple workshops between now and leading into the General elections.**

NEW BUSINESS

12. Approval of 2024 Holiday Schedule

- **Motion by Mr. Majdi to approve the 2024 Holiday Schedule. Motion seconded and unanimously approved.**

13. Approval of 2024 Jefferson County Commission Regular Meeting Schedule & selection of date and time for the first Regular Meeting of 2024

- **Motion by Mr. Stolipher to approve the 2024 Jefferson County Commission Regular Meeting Schedule & with Commissioner Stolipher stating the next regular meeting will be held on January 4, 2024. Motion seconded and unanimously approved.**

14. Approval of Shepherdstown Fire Department and Friendship Fire Company $85k Annual Allocation.

- **Motion by Mr. Majdi to approve the yearly allocations for Shepherdstown Fire Department and Friendship Fire Company in the amount of $85,000. Motion seconded and unanimously approved.**

15. Discussion/Action by County Commission to seek an advisory opinion from the Ethics Commission on subunits of the Planning Commission abiding by the Open Meetings Act to include an agenda and meeting minutes (TJ)

- **Motion by Ms. Jackson for the county commission to seek an advisory opinion from the ethics commission if subunits created by the Jefferson County Planning Commission, including but not limited to the Ordinance Rewrite, Solar Facilities, and Budget committees are subject to abiding by the open meetings act to include a published agenda and meeting minutes. Motion seconded and unanimously approved**

16. Review/Consider the request from counsel at Bowles Rice & Jackson Kelly PLLC to reinstate the June 2022 Solar Text Amendment by annulling its action of September 7, 2023.

- **Motion by Mr. Stolipher to enter into Executive Session to receive legal advice and status updates on item 16. Motion passed on 3-0 with Commissioner Majdi, Commissioner Tabb and Commissioner Stolipher voting for. Commissioner Jackson and Commissioner Krouse recused themselves.**

- **Motion by Mr. Stolipher to come out of Executive Session and reconvene in regular session. Motion seconded and unanimously approved.**

- **Motion by Mr. Majdi to move to rescind action of the County Commission meeting on September 7, 2023 regarding the Solar Text Amendment, Further more to request the Planning Commission to review Section 8.20 in the Zoning Ordinance and provide recommended edits based on projects submitted thus far. Motion passed on 3-0 with Commissioner Majdi, Commissioner Tabb and Commissioner Stolipher voting for. Commissioner Jackson and Commissioner Krouse recused themselves.**

***Commissioner Majdi asked Roger Goodwin-Director-Chief County Engineer three questions:**

1) **What Article 12 procedures follow?**

    a. No- it is my understanding that the procedures of Article 12 were not followed.

2) **Have you or your staff amended the Zoning Ordinance that resulted in the Commission to take action at the September 7, 2023 meeting?**

   a. No, it is my understanding that the staff was not directed to amend the zoning ordinance and no further direction was provide as we lost the County Administrator and the Commission was not meeting. The process to amending an ordinance is to present the new amended change to the Commission that is to be adopted, along with an order directing staff to record the amended ordinance at the county clerk's office. This did not happen.

3) **Is there any difference in the language in the current Solar Text amendment since it was first written?**

   a. Attorney William F. Rohrbaugh Stated that there has been no changes to the Solar Text Amendment that was adopted back in June of 2022.

Adjourn

The Commission adjourned at 8:46 pm a motion by Commissioner Stolipher. Motion was seconded and unanimously approved.

_____
Steve Stolipher, PRESIDENT

Respectfully submitted
Sorayda Pitts
Administrative Assistant

Minutes

Jefferson County Commission

Thursday, January 4, 2024

A meeting of the Jefferson County Commission was held on Thursday, January 4, 2024 during the first quarterly session at 9:30 am. The meeting was held via GoToWebinar and in-person. Present were President Steve Stolipher, Commissioner Jane Tabb, Commissioner Tricia Jackson, Commissioner Jennifer Krouse, and Commissioner Pasha Majdi. Also present were Edwina Benites, Interim County Administrator, Nathan Cochran, assistant prosecuting attorney, Jacki Shadle, county clerk; and Sorayda Pitts, administrative assistant. The archived meeting of the Thursday, January 4, 2024, meeting is available on the Jefferson County Commission website.

PRAYER- Pastor Craig Bush- Grace Baptist Church

PLEDGE OF ALLEGIANCE

1. Selection of Commission President-

    - Commissioner Krouse nominated Commissioner Jackson for president of the Commission for the year 2024. Commissioner Jackson received one vote. (Krouse)

    - Commissioner Tabb nominated to Commissioner Stolipher for president of the Commissioner for the year 2024. Commissioner Stolipher received two votes. (Tabb and Majdi)

        - **By majority vote, Commissioner Stolipher was selected as president of the Jefferson County Commission for 2024.**

Selection of Commission vice president-

- Commissioner Krouse nominated Commissioner Jackson for vice president of the Commission for the year 2024. Commissioner Jackson received one vote. (Krouse)

- Commissioner Stolipher nominated Commissioner Tabb for vice president of the Commission for the year 2024. Commissioner Tabb received two votes. (Stolipher and Majdi)

- **By majority vote, Commissioner Tabb was selected as vice president of the Jefferson County Commission for 2024.**

Selection of Committee Assignments-

2024

Jefferson County Commission

Assignments to Boards, Commissions, and Organizations

Organization	2023	2024
Approval of Bills	Tabb/Krouse	Tabb/Krouse
Board of Health – BOH	Krouse	Krouse
Building Repair & Security Courthouse Committee	Krouse	Krouse
Charles Town Utility Board Liaison - CTUB	Jackson	Jackson
Community Corrections Committee – Day Report Center	Jackson	Jackson
Development Authority – JCDA	Stolipher	Stolipher
E911 Council	Tabb	Tabb
Extension Service	Tabb	Tahb
Farmland Protection Board – JCFPB	Tabb	Tabb
Jefferson County Convention & Visitors Bureau - JCCVB	Stolipher	Krouse
Jefferson County Fire & Rescue Association - JCFRA	Jackson/Krouse	Krouse
Historic Landmarks Commission – JCHLC	Krouse	Krouse
Homeland Security/LEPC	Jackson	Jackson
Legislative Liaison	Co. Administrator	Eddie Benites

Jefferson County Parks and Recreation Commission	Krouse	Majdi
Jefferson County Planning Commission	Stolipher	Stolipher
Region 9	Stolipher	Majdi
Solid Waste Authority	Stolipher	Majdi
Hagerstown-Eastern Panhandle Metropolitan Planning Org. (HEPMPO)	Stolipher	Stolipher
Eastern Panhandle Transit Authority (EPTA)	Tabb	Tabb
Workforce Investment Act Liaison	Jackson	Jackson

APPROVAL OF MINUTES

December 21, 2023, regular meeting minutes

It was the consensus of the commission to table this until the next schedule meeting to incorporate edits.

APPROVAL OF REQUISITIONS

Motion by Mr. Stolipher to approve the Requisitions for January 4, 2024, in the amount of $98,557.75. Motion seconded and unanimously approved.

APPROVAL OF ACCOUNTS PAYABLE

CHECK NUMBER	VENDOR NAME	UNCLEARED
88994	AHA-ARTS & HUMANITIES ALLIANCE	1,259.84
88995	AT&T BILL PAYMENT	2.58
88996	BAKERTON VOLUNTEER FIRE DEPARTMENT	85,000.00
88997	BLUE RIDGE MOUNTAIN VOLUNTEER FIRE COMPANY	85,000.00
88998	CITIZENS VOLUNTEER FIRE COMPANY	85,000.00

88999		COX HOLLIDA YOUNG PLLC	475.00
89000		INDEPENDENT VOLUNTEER FIRE COMPANY	85,000.00
89001		JEFFERSON COUNTY HISTORIC LANDMARKS COMMISSION	1,865.49
89002		JEFFERSON CO CONVENTION AND VISITORS BUREAU	31,495.68
89003		JEFF CO PARKS & RECREATION COMMISSION	28,370.37
89004		LANGUAGE LINE SERVICES	158.45
8900S		MIDDLEWAY FIRE COMPANY	85,000.00
89006		DR. ROBERT E. JONES III	1,000.00
89007		SOFTWARE SYSTEMS INC	55.00
89DD8		SPIRIT OF JEFFERSON	211.80
89009	FG/009	BERKELEY COUNTY SHERIFF'S OFFICE	10,430.12
89010	FG/009	CITY OF CHARLES TOWN	546.51
89011	FG/009	RANSON POLICE DEPT	3,239.82
89012	GS/004	GENERAL COUNTY FUND-J FEE	10,196.65
TOTAL			514,307.31

- **Motion by Mr. Stolipher to approve the Accounts Payable for December 28, 2023, in the amount of $514,307.31. Motion seconded and unanimously approved.**

CHECK NUMBER		VENDOR NAME	UNCLEARED
89014		AUTOZONE	70.78
89015		BOLIVAR / HARPERS FERRY PUBLIC LIBRARY	23,175.00
89016		BUREAU OF CHILD SUPPORT	373.39
89017		CAPITAL LIGHTING & SUPPLIES LLC	601.30
89018		CHARLES TOWN PRESBYTERIAN CHURCH	23.00
89019		COLONIAL LIFE	95.68
89020		COMPTROLLER OF MARYLAND	845.15
89021		CREAMERS WRECKER SERVICE	229.50
89022		DODSON SEPTIC SERVICE LLC	855.00
89023		EFTPS IRS TAXES	114,244.23
89024		EMPOWER RETIREMENT	6,905.35
89025		EPTA-EASTERN PANHANDLE TRANSIT AUTHORITY	25,000.00
89026		FRONTIER	270.78
89027		FRONTIER	73.52
89028		GUTTMAN OIL CO	9,957.96
89029		HIGHMARK WV	200,193.04
89030		JEFFERSON CO EMERGENCY SERVICES AGENCY	5,320.00
89031		JEFFERSON COUNTY DEVELOPMENT AUTHORITY	28,667.75
89032		JEFF CO PARKS & RECREATION COMMISSION	139,535.50
89033		JEFFERSON DAY REPORT CENTER	38,750.00

89034		JEFFERSON SECURITY BANK	4,085.00
89035		MATTHEW BENDER	672.46
89036		MATTHEW BENDER	273.31
89037		MILLERS SUPPLIES AT WORK	1,184.24
89038		MOTOROLA SOLUTIONS INC	29,555.10
89039		NATIONAL VISION ADMIN.	1,586.38
89040		NATIONWIDE RETIREMENT SOLUTIONS	1,065.00
89041		OLD CHARLES TOWN LIBRARY	24,675.00
89042		POTOMAC EDISON	259.30
89043		RICE TIRES CO	1,302.72
89044		SANDRA KELLEY	231.00
89045		SHEPHERDSTOWN PUB LIBRARY	23,175.00
89046		SOUTH JEFFERSON PUBLIC LIBRARY	23,175.00
89047		SPIRIT OF JEFFERSON	55.06
89048		STATE TAX DEPARTMENT	150.00
89049		UNIFIRST	199.61
89050		US POSTAL SERVICE	20,000.00
89051		WV ASSOCIATION OF COUNTY CLERKS	235.00
89052		WV DEPUTY SHERIFF RETIREMENT SYSTEM	25,814.26
89053		WV PUBLIC EMPLOYEE RETIREMENT SYSTEM	47,520.27
89054		WV PUBLIC EMPLOYEE RETIREMENT SYSTEM	166.49
89055		WVU WEST VIRGINIA UNIVERSITY	3,700.00
89056	FG/009	SHERIFF OF JEFFERSON COUNTY	5,339.53
89057	AM/053	AXIOM STAFFING GROUP	2,002.40
89059	AM/053	SHERIFF OF JEFFERSON COUNTY	1,799.12
89058	BS/011	SHERIFF OF JEFFERSON COUNTY	10,111.91
TOTAL			823,520.09

- **Motion by Mr. Stolipher to approve the Accounts Payable for January 4, 2024, in the amount of $823,520.09. Motion seconded and unanimously approved.**

APPROVAL OF MANUAL CHECKS

		28-Dec-23	
		OTHER FUNDS	
Check #	Fund	Vendor	Amount
592	CS/002	EASTERN PANHANDLE MENTAL HEALTH CENTER	2600.00

6	TC/077	UNITED WAY-EASTER PANHANDLE INC (TEEN COURT)	55.71
284	AR/207	FRIENDSHIP VOLUNTEER FIRE COMPANY	1800.00
285	AR/207	JOHN P PLACE INC	3500.00
1866	CO/246	EXECUTIVE EMERGENCY LIGHTING LLC	6752.09
1867	CO/246	INSIGHT PUBLIC SECTOR INC	26096.67
1868	CO/246	MOTOROLA SOLUTIONS INC	145589.52
1124	AV/056	PRINT-O-STAT INC	190.00
TOTAL			186,583.99

- **Motion by Mr. Stolipher to approve the Manual Checks for December 29, 2023. in the amount of $186,583.99. Motion seconded and unanimously approved.**

		4-Jan-24	
		OTHER FUNDS	
Check #	Fund	Vendor	Amount
593	CS/002	JEFF CO COMMUNITY MINISTRIES	$25,000.00
890	HD/008	SHERIFF OF JEFFERSON COUNTY	$1,482.49
286	AR/207	SHERIFF OF JEFFERSON COUNTY	$11,438.82
1869	CO/246	BOLAND TRANE SERVICES	$14,562.00
1870	CO/246	QUADIENT INC	$12,956.00
1871	CO/246	ZMM ARCHITECTS & ENGINEER	$4,950.00
409	WV/369	WV DEPUTY SHERIFF RETIREMENT SYSTEM	$772.00
981	CW/059	WV STATE POLICE ACCT OFFICE	$30.00
982	CW/059	WV STATE AUDITOR	$830.00
TOTAL			$72,021.31

- **Motion by Mr. Stolipher to approve the Manual Checks for January 4, 2024, in the amount of $72,021.31. Motion seconded and unanimously approved.**

APPROVAL OF PAYROLL

Motion by Mr. Stolipher to approve the Payroll for December 22, 2023, in the amount of $312,286.64. Motion seconded and unanimously approved.

PUBLIC COMMENT: Danny Lutz, David Tabb, Jackie Shadle

PRESENTATIONS

2. Angie Banks- Assessor- Requested Approval of 2024 Board of Review and Equalization Notice.

    - **Motion by Mrs. Tabb to approve the time/date of the 2024 Board of Review and Equalization Notice. Motion seconded and unanimously approved.**

3. Matt Harvey-Prosecuting Attorney- Requested approval of Hire- Assistant Prosecuting Attorney.

    - **Motion by Mr. Stolipher to approve the hire of Adam Warm as an Assistant Prosecuting Attorney with a salary of $115,000.00 and start date of January 5, 2024. Motion seconded and unanimously approved.**

4. Nikki Painter- Probate Office- Requested Fiduciary Quarterly Review of Estates opened, Waivers of Final Settlement & Accountings Recorded since last quarterly review in October 2023.

    Motion by Mrs. Tabb to convene as a Fiduciary Review Board. Motion Seconded and unanimously approved.

    Motion by Mrs. Tabb to adjourn as a Fiduciary Board and reconvene in regular session. Motion seconded and unanimously approved.

    - **Motion by Mrs. Tabb to approve the Fiduciary Quarterly Review of Estates opened, Waivers of Final Settlement and Accountings as presented Recorded**

since last quarterly review in October 2023. Motion seconded and unanimously approved.

5. Mike Sine- Mike Sine, Director, Jefferson County Emergency Services- Requested Consideration of potential purchase of Shepherdstown Fire Department ambulance

   - **Motion Mr. Majdi to move forward with the purchase of the Shepherdstown unit as presented by Director Mike Sine. Motion failed on a 2-3 vote with Commissioner Majdi and Commissioner Stolipher voting for and Commissioner Tabb, Commissioner Krouse and Commissioner Jackson voting against.**

   - **Motion by Mr. Majdi to request for staff to develop a vehicle replacement plan within the CIP process and to include a plan to provide staffing for the under serve areas. Motion seconded and unanimously approved.**

6. Dan Murphy, Greenway Engineering- Requested - Harvest Hills Subdivision Phase II – Request for Zoning Map Amendment.

   - **Motion by Mr. Stolipher to forward the request to the Jefferson County Planning Commission to review the application and to schedule a public hearing for the February 1, 2024, regular scheduled meeting at 11am. Motion seconded and unanimously approved.**

7. Roger Goodwin- Chief County Engineer- Requested - Complete Construction Bond Release for Mark E. Roper – Cave Quarter Estates Subdivision, Section C, Lots 48-51 & Residue Lots A & B (File #04-08)

   - **Motion by Mr. Stolipher to approve the complete release of Letter of Credit #232 with BCT Bank in the amount of $116,242.00 from the construction bond for Mark E. Roper - Cave Quarter Estates Subdivision, Section C, Lots 48-51 & Residue Lots A & B (File #04-08). Motion seconded and unanimously approved.**

8. Jennie Brockman- Deputy Director-Planning & Zoning- Requested a partial refund related to an overpayment of subdivision fees for Phase 4B of the Beall air Residential Subdivision.

- **Motion by Mr. Stolipher to approve a partial refund of subdivision fees related to an overpayment of fees related to the Beallair Subdivision in the amount of $145.00. Motion seconded and unanimously approved.**

9. Dick Myers- Deputy Director, Jefferson County Homeland Security & Emergency Mgmt. Requested- Approval of request for JCC President's signature of the 2021 Emergency Management Performance Grant.

- **Motion by Mrs. Tabb to allow the Jefferson County President to sign the 2021 EMPG Award document for reimbursement in the amount of $62,342.00. Motion seconded and unanimously approved.**

10. Edwina Benites- Director, Jefferson County Development Authority, and Interim County Administrator requested-

a. Approval of Jefferson County Development Authority Hire for Fellow

- **Motion by Mr. Stolipher to approve the hire of Madison Walker to be a fellow for the Jefferson County Development Authority with a starting date of January 8, 2024, for the spring 2024 semester at an hourly rate of $17 per hour and not to exceed $2500.00. Motion seconded and unanimously approved.**

b. Approval of Application – WV Local Economic Development Grant

- **Motion by Mrs. Tabb to move to resolve that the Jefferson County Development Authority is the lead economic development organization for the County. Motion seconded and unanimously approved.**

11. Nathan Cochran- Prosecuting Attorney's Office-

a. Report by counsel on opioid case and consideration of recent developments in the case (Jefferson County Commission v. Purdue Pharmaceutical, et al. US District Court, Northern District of West Virginia, Civil Action #1 :17-OP-45170, MDL 17-md-02804-DAP In Re: National Prescription Opiate Litigation; State of West Virginia ex rel. Patrick Morrisey, Attorney General v. Walgreens Boots Alliance, Inc., et al., Civil Action No.

20-C-82 PNM (W. Va. Cir.Ct. Putnam County) (the "West Virginia AG Action"), pending within In re: Opioid Litigation, Civil Action No. 21-C-9000 (W. Va. Cir. Ct. Kanawha County) and related matters.

b. Discussion of legal issues and potential action regarding proposed Solar Text Amendment to the Jefferson County Zoning and Land Development Ordinance, File #ZTA22-01. Discussion of Jefferson County Circuit Court Civil Action No.'s 2021-C- 33 through 37 and Jefferson County Circuit Court Civil Action No.'s 2021-C-46 through 50, Jefferson County Circuit Court Civil Action No. CC-19-2022-C-6, Jefferson County Circuit Court Civil Action No. 2022-C-81, Jefferson County Circuit Court Civil Action No. 2022-C-103, 2022-C-14 and 2023-C-112, WV Supreme Court No.'s 21-0727, 21-0728, and 21- 0731 and WV Intermediate Court of Appeals No. to be assigned (appeal of Jefferson County Circuit Court Civil Action No. 2022-C-141).

c. Consider matters involving or affecting the construction planning, or purchase, sale or lease of property.

d. Discussion of wage issue regarding Deputy Sheriffs.

Provided no updates but in response to Commissioners questions it was explained the reasons for the existents of the items on the agenda.

NEW BUSINESS

12. Request IT Department to research microphone options for the County Commission meeting room.

- **Motion by Mrs. Tabb to have the staff to research options to include amplified sound in the meeting room as well as option to display the written text of motions. Motion seconded and unanimously approved.**

INTERIM COUNTY ADMINISTRATOR REOPRT

-Approval to Re-advertise for the Deputy County Administrator

- **Motion by Mrs. Tabb to re-advertise for the deputy county administrator positionand keep the posting open for 4 weeks. The motion passed on a 4-1 vote with Commissioner Tabb, Commissioner Stolipher, Commissioner Majdi, and Commissioner Krouse voting in favor and Commissioner Jackson opposing.**

Adjourn

The Commission adjourned at 11:37 am, a motion by Mr. Stolipher. Motion was seconded and unanimously approved.

_____
Steve Stolipher, PRESIDENT

Respectfully submitted
Sorayda Pitts
Administrative Assistant

REQUISITIONS TO BE APPROVED

January 18, 2024

DEPARTMENT	Requisition No.	AMOUNT	VENDOR	DESCRIPTION
OTHER BUILDINGS	24036	$ 291,582.00	Boland Trane Services, Inc.	rplcmt of air handler/condensing unit
SHERIFF - LAW	24037	$ 8,484.00	RCN Communications, LLC	renewal of netcloud cradlepoints
	24038	$ 10,655.00	Selex ES Inc.	Renewal of LPR warranty coverage
GRAND TOTAL		**$ 310,721.00**		

DESCRIPTION	FUND 001 CO.		TOTAL
Gross Wages	$491,156.54		$491,156.54
6.2% Tax Payable OASDI	$29,294.60		$29,294.60
1.45% Tax Payable HI	$6,851.27		$6,851.27
Fed Withholding	$41,952.49		$41,952.49
WV State Withholding	$15,774.13		$15,774.13
VA State Tax	$984.73		$984.73
MD State Tax	$845.15		$845.15
PERS Retirement Deduct 4.5%	$8,672.95		$8,672.95
PERS Retirement Deduct 6%	$8,600.48		$8,600.48
DSRS Retirement Deduct 8.5%	$8,955.95		$8,955.95
EMS Retirement Deduct 8.5%	$1,648.87		$1,648.87
Hosp. Pre-Taxed	$16,638.00		$16,638.00
D/VF	$1,725.18		$1,725.18
AFLAC Pre-Taxed	$299.37		$299.37
AFLAC Post-Taxed	$758.88		$758.88
Optional Life Post-Taxed	$1,811.23		$1,811.23
Wage Attach #1	$373.39		$373.39
Wage Attach #2	$150.00		$150.00
Wage Attach #3	$166.49		$166.49
Wage Attach #4			$0.00
457 - Nationwide	$1,065.00		$1,065.00
457I - Empower	$4,991.36		$4,991.36
457R - Roth	$1,913.99		$1,913.99
Christmas Club	$4,085.00		$4,085.00
Colonial(Plus)	$47.84		$47.84
Uniforms			$0.00
Total Deductions	$157,606.35	$0.00	$157,606.35
Net Wages Total	$333,550.19	$0.00	$333,550.19
Payroll Date	January 5, 2024		

AGENDA REQUEST FORM

www.jeffersoncountywv.org

Name: Angela Banks, Assessor

Department or Organization: **Jefferson County Assessor's Office**

Estimation of amount of time needed for appointment:

Date Requested – 1st Choice: January 18, 2024
If a specific date is needed, please provide reason for specific date:

Date Requested – 2nd Choice:

Subject (*Warding to be placed on agenda*):

- **Approval of Exonerations**

Please provide the County Commission with a description of your request or presentation, including any background information:

Is this a funding request? Y/N NO
If so, how much? $
Provide exact financial impact/request:

Recommended motion (*Please type out the wording of the motion that you would like the Commission to approve*):

Attach supporting documents for request, or request may be denied.
If not attached, explain:

Is equipment needed? Projector Y/N Internet/Wi Fi Y/N Telephone for conference call Y/N

Contact information:
Email address: Phone Number:

FOR COMMISSION STAFF USE ONLY – FINANCIAL IMPACT/RECOMMENDATION
not applicable

AGENDA REQUEST FORM

www.jeffersoncountywv.org

Name: **Jacki Shadle**
Department or Organization: **County Clerk**
Estimation of amount of time needed for appointment: **5 minutes**
Date Requested – 1st Choice: **January 18, 2024**
If a specific date is needed, please provide reason for specific date:
Date Requested – 2nd Choice:

Subject (*Wording to be placed on agenda*): **New Hire approval for full time Probate Clerk**

Please provide the County Commission with a description of your request or presentation, including any background information:

I would like to hire Joseph Burwell as a full-time Probate Clerk. His start date will be January 22, 2024.

Is this a funding request? **Y/N**
If so, how much?
Provide exact financial impact/request:

Recommended motion (*Please type out the wording of the motion that you would like the Commission to approve*):

To hire Joseph Burwell as a full-time Probate Clerk with a start date of January 22. 2024.

Attach supporting documents for request, or request may be denied.
If not attached, explain:

Is equipment needed? Projector Y/N Internet/Wi Fi Y/N. Telephone for conference call Y/N

FOR COMMISSION STAFF USE ONLY – FINANCIAL IMPACT/RECOMMENDATION

AGENDA REQUEST FORM

www.jeffersoncountywv.org

Name: Martin Burke

Department or Organization: **Jefferson County Historic Landmarks Commission**

Estimation of amount of time needed for appointment: 15 min.

Date Requested – 1st Choice: **January 18, 2024**
If a specific date is needed, please provide reason for specific date:

Date Requested – 2nd Choice: February 1, 2024

Subject (*Wording to be placed on agenda*): **Opening the JC Courthouse on Saturday April 13, 2024, 10:30- 3pm to celebrate the JC Courthouse being designated a National Historic Landmark.**

Please provide the County Commission with a description of your request or presentation, including any background information:

On December 13, 2023 the Jefferson County Courthouse was designated a National Historic Landmark. To celebrate, there will be a presentation of a plaque from the National Park Service at noon and after the presention JCHLC proposes to have guided tours of the second floor courtroom. Saturday April 13, 2024 coinsides with the reopening of the CT farmers market and Charles Town's Blooms and Blossoms event. Details of the presentation, speakers, and guests are unknown at this time.
Costs include salary for two baliffs.

Is this a funding request? Y/N
If so, how much? $ 400
Provide exact financial impact/request:

Recommended motion (*Please type out the wording of the mation that you would like the Commission to opprove*):

1. Move to allow the JC Courthouse be open to the public on Saturday April 13, 2024 from 10:30-3pm

Attach supporting documents for request, or request may be denied. **NHL Exceutive Summary attached**
If not attached, explain:

Is equipment needed? Projector Y/N Internet/Wi Fi Y/N. Telephone for conference call Y/N

Contact information:
Email address: martinburke@frontiernet.net Phone Number: 304-876-3883

FOR COMMISSION STAFF USE ONLY – FINANCIAL IMPACT/RECOMMENDATION

not applicable

NHL Executive Summary

Name of Property: Jefferson County Courthouse
City, State: Charles Town. WV
Significant Dates: April 25–September 22, 1922
NHL Criteria: 1
Theme: V. Developing the American Economy
4. workers and work culture
5. labor organizations and protests

Previous Recognition: 1934 Historic American Building Survey
1973 National Register of Historic Places

National Historic Context: "Extractive Labor in the United States," *Labor History in the United States NHL Theme Study*

NHL Significance:

- The Jefferson County Courthouse is nationally significant under NHL Criterion 1 for representing the critical role the legal system played in the labor struggles of the early 20th century as illustrated in the final chapter of the West Virginia mine wars (1912–1921) and the culmination of the Battle of Blair Mountain (1921) involving thousands of union miners in the largest armed uprising in American labor history.
- At this courthouse in 1922, the treason trials of two pro-union coal miners accused by a private coal-mining company spawned a national debate over the charge of treason being used as a tool against labor organizing and exposed how private interests and the state maneuvered legal systems during capital-labor conflicts to defend only the rights of companies.

- The trials caught the attention of the public as well as national union leaders and civil liberties advocates who feared that a guilty verdict would deal a heavy blow to the struggling labor movement, spread anti-union tactics to industries beyond coal mining in West Virginia, and have a chilling effect on the rights of free speech for labor organizers. While ultimately, the United Mine Workers of America's (UMW) worst fears were not realized, the labor unrest, violence, and ensuing costly legal battle took a significant toll on the UMW, contributing to its decline in the 1920s.
- As the first and only treason trials connected to the labor movement in America, this pivotal event in the history of the UMW generated national awareness of the hardships miners endured in their struggles to unionize and ended a decade-long era of violent labor strife.

Scene in the courtroom at the opening of the first treason trial on April 25, 1922. Photo courtesy of Getty Images. Bettmann Collection.

Integrity:

- Through the meticulous stewardship of the Jefferson County Commissioners, the courtroom retains the essential features that convey its appearance at the time of the trials. These features include the original floor plan, the gallery, windows, coved ceiling with arched brackets, and the elaborate plaster and wood rose medallion from which hangs an 1879, 60-light, round chandelier. Furthermore, the courthouse building itself is still located in its historic surroundings within a turn-of-the century town setting.
- Modifications to the courthouse's materials and design—the addition of elevators, a fire escape, the in-kind replacement of the wood courtroom doors in their historic design and bricked-in windows that retain their original location and trim—minimally impact the ability of the courthouse to convey its historical significance. A two-story glass hyphen added in 2007 between the 1910 courthouse addition and the 1918 Jefferson County Jail removed the door and window openings from the addition's south wall but was sensitively done and is unobtrusive.

Owner of Property: Jefferson County, West Virginia

Acreage of Property: Less than one acre.

Origins of Nomination: The Jefferson County Historic Landmarks Commission initiated the effort through an inquiry to the NPS National Capital Area which then funded a nomination through a cooperative agreement with the Organization of American Historians.

Potential for Positive Public Response or Reflection on NHL Program: This nomination will bring attention to a unique part of the labor history story that is not well-known and will highlight the historic contribution that coal miners and the UMW made to a distinctive period in American labor history.

Potential for Negative Public Response or Reflection on NHL Program: None known.

Public Comments Favoring Designation (as of August 21, 2023):

- Martin Burke, Chair, Jefferson County Historic Landmarks Commission
- Susan Pierce, Deputy State Historic Preservation Officer, West Virginia Department of Arts, Culture and History

Landmarks Committee Comments:

- Add more architectural description about the courthouse building and its style.
- Add information concerning race and if the courthouse was a segregated building.

Landmarks Committee Recommendation:
The Committee recommends that the National Park System Advisory Board recommend to the Secretary of the Interior the designation of the Jefferson County Courthouse in Charles Town, West Virginia, as a National Historic Landmark, with any additions and corrections as noted by the Committee being made prior to the nomination being forwarded to the Secretary of the Interior for action.

Advisory Board Recommendation: The National Park System Advisory Board recommends to the Secretary of the Interior the designation of the Jefferson County Courthouse in Charles Town, West Virginia, as a National Historic Landmark.

United States Department of the Interior
NATIONAL PARK SERVICE
1849 C Street, NW
Washington, DC 20240

H34(7228) December 22, 2023

Greetings:

I am pleased to inform you that on December 11, 2023, Secretary of the Interior Deb Haaland designated Jefferson County Courthouse in Charles Town, West Virginia, a National Historic Landmark, in recognition of the property's national significance in the history of the United States.

The Historic Sites Act of 1935 authorizes the Secretary of the Interior to identify and recognize nationally significant places that best represent the American experience. Landmark designation recognizes and encourages the preservation of places that have exceptional value for commemorating or illustrating the history of the United States, for the inspiration and benefit of all Americans.

The Secretary of the Interior designates National Historic Landmarks only after careful study by the National Park Service, extensive opportunities for public involvement, and review and recommendation by the National Park System Advisory Board, in accordance with National Historic Landmark criteria set forth in 36 CFR Part 65. National Historic Landmarks are listed in the National Register of Historic Places, making them eligible for the safeguards and benefits provided by the National Historic Preservation Act of 1966 and other federal laws protecting historic properties.

We are delighted to enroll Jefferson County Courthouse as a National Historic Landmark – a designation that reflects the recognition of this property as an irreplaceable part of our nation's heritage.

Sincerely,

Sherry A. Frear, Chief
National Register of Historic Places
and National Historic Landmarks Program

United States Department of the Interior
NATIONAL PARK SERVICE
1849 C Street, NW
Washington, DC 20240

H34(2280)

Memorandum

To: Secretary

Through: Assistant Secretary for Fish and Wildlife and Parks Date: 2023.10.19 11:20:53 -04'00'

From: Director Date: 2023.10.17 15:25:50 -04'00'

Subject: Designation of 16 Properties as National Historic Landmarks, Acceptance of Updated Documentation for 6 National Historic Landmarks, and Withdrawal of Designation for 3 National Historic Landmarks: Director's Recommendation and Request for Secretarial Action

At its meeting on August 15-16, 2023, the National Park System Advisory Board recommended the designation of the following properties as National Historic Landmarks:

1. POND FARM POTTERY, Guerneville, Sonoma County, CA (Criteria 1 and 2, Exception 8)
2. WAYFARERS CHAPEL, Rancho Palos Verdes, CA (Criterion 4, Exception 1)
3. TEMPLE AARON, Trinidad, CO (Criteria 1 and 4, Exception 1)
4. WINK'S PANORAMA, Gilpin County, CO (Criterion 1)
5. BARNUM INSTITUTE OF SCIENCE AND HISTORY, Bridgeport, CT (Criterion 2)
6. NATIONAL ARCHIVES BUILDING, Washington, DC (Criteria 1 and 4)
7. STRATEGIC AIR COMMAND GROUND ALERT FACILITY, Mountain Home Air Force Base, Elmore County, ID (Criteria 1 and 4)
8. SAM AND RUTH VAN SICKLE FORD HOUSE, Aurora, IL (Criterion 4)
9. MONTGOMERY COUNTY JAIL AND SHERIFF'S RESIDENCE, Crawfordsville, IN (Criterion 4)

10. POTTAWATTAMIE COUNTY JAIL AND SHERIFF'S RESIDENCE, Council Bluffs, IA (Criterion 4)

11. SAMPSON-WHITE JOINER SHOP, Duxbury, MA (Criteria 1 and 4)

12. FORT ARMISTEAD, Coker Creek, Monroe County, TN (Criteria 1 and 6)

13. RIO VISTA BRACERO RECEPTION CENTER, Socorro, TX (Criterion 1)

14. JEFFERSON COUNTY COURTHOUSE, Charlestown, WV (Criterion 1)

15. ROCK ISLAND SITE II, Door County, WI (Criterion 6)

16. QUEBEC 01 LAUNCH CONTROL FACILITY, Laramie County, WY (Criteria 1 and 4, Exception 8)

In accordance with National Historic Landmarks Program regulations, the Board reviewed the study nominating these sixteen properties for Landmark status and found that this property meets National Historic Landmarks Program criteria. The Board, therefore, voted to recommend that these properties be designated as National Historic Landmarks.

Also, at its meeting on August 15-16, 2023, the National Park System Advisory Board recommended acceptance of updated documentation for the following existing National Historic Landmarks:

1. JOHN MUIR HOME/STRENTZEL-MUIR RANCH, Martinez, Contra Costa County, CA (Criteria 1 and 2)

2. CARTER G. WOODSON HOME, Washington, DC (Criteria 2 and 3)

3. RIVERSIDE HISTORIC DISTRICT, Riverside, IL (Criteria 4 and 5)

4. HISTORIC MORAVIAN BETHLEHEM HISTORIC DISTRICT, Bethlehem, PA (Criteria 1 and 4, Exceptions 1 and 5)

5. HERMITAGE HOTEL, Nashville, TN (Criterion 1)

6. WATERFORD HISTORIC DISTRICT, Loudoun County, VA (Criteria 1, 4, and 5, Exception 8)

In accordance with National Historic Landmarks Program regulations, the Board reviewed the updated documentation reports for these Landmarks and found that the updated documentation meets National Historic Landmarks Program criteria. The Board, therefore, voted to recommend that the updated documentation for these six National Historic Landmarks be accepted.

Also, at its meeting on August 15-16, 2023, the National Park System Advisory Board recommended withdrawal of designation for the following existing National Historic Landmarks:

1. GOLDENROD (SHOWBOAT), Kampsville, Calhoun County, IL
2. DELUGE (FIRE FIGHTING TUG), New Orleans, LA
3. STE. CLAIRE (PASSENGER STEAMBOAT), Wayne County, MI

In accordance with National Historic Landmarks Program regulations, the Board reviewed the withdrawal of designation reports for these Landmarks and found that these properties no longer meet National Historic Landmarks Program criteria. The Board, therefore, voted to recommend that designation for these three National Historic Landmarks be withdrawn.

The Certificate of Action by the National Park System Advisory Board is attached for your review. In addition, you may find the nominations and exccutivc summaries for all of these properties at: https://www.nps.gov/subjects/nationalhistoriclandmarks/nps-advisory-board-meeting-summer-2023.htm

Per National Historic Landmarks Program regulations, I hereby certify that the procedural requirements set forth in 36 CFR Part 65.5 have been met. In particular, all notification requirements for these properties have been followed. No owner objections have been received.

I recommend that you approve the Board's August 15-16, 2023, recommendations and designate as a National Historic Landmarks the sixteen properties listed above, accept the updated documentation for the six National Historic Landmarks listed above, and withdraw designation of the three National Historic Landmarks listed above.

APPROVE: ☑

DISAPPROVE: ☐

DATE: December 11, 2023

Deb Haaland
Secretary of the Interior

Attachments

AGENDA REQUEST FORM

www.jeffersoncountywv.org

Name: Jessica James, Assistant Deputy County Administrator

Department or Organization: **Jefferson County Commisson Office**

Estimation of amount of time needed for appointment: 15 minutes

Date Requested – 1st Choice: January 18, 2024
If a specific date is needed, please provide reason for specific date:

Date Requested – 2nd Choice:

Subject (*Wording to be placed on agenda*):

- **Interviews & Appointments to the following:**
  - **Board of Zoning Appeals – two three-year terms ending January 1, 2027**
  - **Eastern Panhandle Transit Authority – two three-year terms ending January 31, 2027**

Please provide the County Commission with a description of your request or presentation, including any background information:

Is this a funding request? Y/N NO
If so, how much? $
Provide exact financial impact/request:

Recommended motion (*Please type out the wording of the motian that you would like the Commission to approve*):

Attach supporting documents for request, or request may be denied.
If not attached, explain:

Is equipment needed? Projector Y/N Internet/Wi Fi Y/N. Telephone for conference call Y/N

Contact information:
Email address: Phone Number:

FOR COMMISSION STAFF USE ONLY – FINANCIAL IMPACT/RECOMMENDATION

not applicable

The Jefferson County Commission proposes to name persons to serve on the following Authorities, Boards, Commissions, or Committees on Thursday, January 18, 2024, or as soon thereafter as the Commission may decide:

- **Board of Zoning Appeals - two (2) three-year terms ending January 1, 2027; and two alternate* positions ending January 1, 2025 and January 1, 2027, respectively.**

  Alternates: Alternate members shall have all powers and duties of a regular Board member when sitting on a case and shall continue to participate in the case until a final decision is reached. Alternate members shall serve by rotation based upon seniority of appointment to the Board.

- **Eastern Panhandle Transit Authority Board of Directors - two (2) three-year terms ending January 31, 2027**

Persons who may be interested in the above listed agencies should submit a letter of interest and a resume or statement of qualifications to the Jefferson County Commission, P.O. Box 250, Charles Town, WV 25414 no later than 12:00 pm the Monday prior to the proposed date of appointment.

Additional information regarding these appointments may be obtained by calling the Commission Office at (304) 728-3284.

Jefferson County Board of Zoning Appeals | 2024

Members currently serving

Name	*Expiration*	*Contacted/Intention*
Matthew McKinney	01/01/2024	Yes - wishes to be reappointed – email attached
Jacob Tyler Harris	01/01/2024	Yes - wishes to be reappointed – email attached
Steve Guier	01/01/2025	
J. Tyler Quynn	01/01/2026	
David Wiegand	01/01/2026	
Mikayla Shremshock (ALTERNATE)	01/01/2026	
VACANT ALTERNATE	01/01/2025	
VACANT ALTERNATE	01/01/2027	

January 18, 2024 agenda

Jessica Carroll

From: Matthew McKinney <mckinneymatt16@gmail.com>
Sent: Thursday, December 14, 2023 5:48 PM
To: Jessica James
Subject: Re: Notice of Term Expiration - Jefferson County Board of Zoning Appeals

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or on clicking links from unknown senders.
Dear Mrs. James:

Thank you for your email. Your hard work and dedication to the residents of Jefferson County does not go unnoticed and is appreciated.

I am seeking reappointment to the Board of Zoning Appeals for another term.

Thank you,

Matt McKinney
(301) 514-7834

On Wed, Dec 13, 2023 at 3:29 PM Jessica James <jjames@jeffersoncountywv.org> wrote:

Mr. McKinney –

Please see attached re: the expiration of your term on the Jefferson County Board of Zoning Appeals. If you have any questions, please let me know.

Thank you,

Jessica

Jessica James

Assistant Deputy County Administrator

Matthew McKinney

301-514-7834
8308 Leetown Road
Kearneysville, WV 25430
mckinneymatt16@gmail.com

January 10, 2023

Jefferson County
Commission
110 N George Street
Charles Town, WV 25414

Dear Commissioners:

As the current Vice Chairman of the Jefferson County Board of Zoning Appeals, and serving the board since 2019, I am an experienced and contributing member of the board.

Members of the public bring requests that fall outside the scope of approval of the Zoning Administrator for a variety of reasons to the BZA. The role of the BZA is to evaluate requests and interpret if the request is, or is not, permissible by the content and intent of the Jefferson County Zoning Ordinance, Subdivision and Land Development Ordinance, Envision Jefferson 2035 Comprehensive Plan, and West Virginia State Code. Evidence presented by the public during the public hearing is also considered in determining the outcome a request.

Having been born and raised in the county, I am aware of the importance guided growth. With strong understanding of the process and the resources needed to represent the county, I am uniquely qualified to serve the board.

It has been my honor and privilege to work on behalf of the people of Jefferson County on the Board of Zoning Appeals. For this reason, I am seeking reappointment.

Very truly yours,

Matthew McKinney

MATTHEW MCKINNEY

OPERATIONS MANAGER

(301) 514-7834
MCKINNEYMATT16@GMAIL.COM
8308 LEETOWN ROAD, KEARNEYSVILLE,WV

OBJECTIVE

To utilize my skillset with the Jefferson Caunty Board of Zoning Appeals ta continue seamless efficiency and continuity within the board.

SKILLS & ABILITIES

Experience and expertise with budgets, policy implementation, project management, employee retention, and productivity even in volatile markets. Experience in identifying, researching, and planning a proactive approach to situations before ar as they arise.

CORE QUALIFICATIONS

Self-motivated, fast learner with proficiency in public service. Problem salver with creative salutions. Experience working independently and collaboratively with a variety of personalities. Exceptional communication and interaction skills to maintain a positive atmosphere.

EXPERIENCE

2014 – Present — **Operations Manager, Cody's Salvage**
Kearneysville, West Virginia
Manage day-to-day business practices including, but not limited to customer service, sales, purchasing, transportation, environmental responsibility, and human resources of an established recycling center.

2003 – Present — **Manager, McKinney's Auto Repair & Towing**
Charles Town, West Virginia
Manage logistics and personnel of an estoblished auto repair facility.

2019 – Present — **Board Member, Jefferson County Republican Executive Committee**
Middleway, Jefferson County, West Virginia
Communicate between constituents and public officials current state of affairs and priorities. Coordinate with committees for messaging and events.

2019 – Present — **Vice Chairman, Jefferson County Board of Zoning Appeals**
Jefferson County, West Virginia
Heor cases and public input to needs and requests of Jeffersan County residents and property owners to determine if requests meet intent and requirements dictated by the Jeffersan County Zoning Ordinance, Subdivision and Land Development Regulations, Envision Jefferson 2035 Comprehensive Plan, and West Virginia State Code.

EDUCATION

June 2005 — **Diploma**
Jefferson High School, Shenandoah Junction, West Virginia
Completed K-12 program through Jefferson County Schoals.

Jan. 18. 2024
agenda

Jessica Carroll

From: Jessica James
Sent: Wednesday, December 13, 2023 5:17 PM
To: 'Jacob Harris'
Subject: RE: Notice of Term Expiration - Jefferson County Board of Zoning Appeals

Yes, this is great, thank you so much! Staff will be back in touch with a copy of the January 18 County Commission meeting agenda with a time certain for the interview/appointment as the meeting date gets closer.

From: Jacob Harris <jacobtylerharris1024@gmail.com>
Sent: Wednesday, December 13, 2023 4:26 PM
To: Jessica James <jjames@jeffersoncountywv.org>
Subject: Re: Notice of Term Expiration - Jefferson County Board of Zoning Appeals

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or on clicking links from unknown senders.
Good Afternoon Jessica,
Thank you for reaching out. Yes, I am interested in serving on the board for the new 3 year term. Will this email be sufficient for written notice?

Very Respectfully,
jacobtylerharris1024@gmail.com
Jacob T. Harris
571-376-1766

From: Jessica James <jjames@jeffersoncountywv.org>
Sent: Wednesday, December 13, 2023 3:27:46 PM
To: jacobtylerharris1024@gmail.com <jacobtylerharris1024@gmail.com>
Subject: Notice of Term Expiration - Jefferson County Board of Zoning Appeals

Mr. Harris –

Please see attached regarding the expiration of your term on the Jefferson County Board of Zoning Appeals. If you have any questions, please let me know.

Thanks,

Jessica

Jessica James
Assistant Deputy County Administrator
Jefferson County Commission
PO BOX 250
Charles Town, WV 25414
(p) – 304-728-3282
(f) – 304-725-7916

JACOB TYLER HARRIS

Reston, VA| 571-376-1766 | jacobtylerharris1024@gmail.com| linkedin.com/in/jacob-tyler-harris

SUMMARY

A driven and skilled Human Resources Talent Acquisition professional experienced in all facets of full life cycle recruiting for the Defense Contracting sector, the U.S government, and Fortune 500 organizations. Proficient in all aspects of Human Resources Talent Acquisition practices, laws, policies, and best practices with specializations in security clearances and government organizations. Skills include:

- Employment Law and HR
- Candidate Screening/Interviews
- Job Analysis/Skills Matching
- Offer Letter Generation and Salary Negotiations
- Recruitment Strategy/Planning,/Advisement
- Sourcing/Screening/Metrics Analysis

EDUCATION

UNIVERSITY OF MARYLAND GLOBAL CAMPUS — Largo, MD
B.S, Human Resources Management — October 2020

UNIVERSITY OF MARYLAND GLOBAL CAMPUS — Largo MD
A.A, Management — July 2020

EXPERIENCE

RAYTHEON TECHNOLOGIES — Dulles, Virginia
Human Resources - Talent Acquisition Recruiting — March 2020 – Current

- Job requisition analysis, Compensation analysis, offer negotiations, salary justifications, competitive market analysis. Data and metrics analysis of the competitive market regarding total rewards, talent, and branding initiatives/strategic planning

- Advisement and implementation of Human Resources staffing principles, laws, policies, regulations, and best practices in support of diversity initiatives, government client customers, and the overall success of the recruitment and placement division. Advised managers and supervisors on policies and procedures for recruitment and staffing, job analysis, vacancy announcements; and analyzing qualifications of applicants

- Recruiting of cleared professionals in the Space, Aerospace, Government, Information Technology, and Intelligence Industries. Conduct sourcing, screenings, scheduling of technical interviews, salary negotiations, attend career fairs, cleared events, and technical meetups at various colleges, military bases, hotels, and other venues

- Recruitment of SECRET, TOP SECRET, TS/SCI and above cleared Information Technology professionals for various government agencies and military organizations to include the NSA, DIA, NGA, State Department, DHS, etc. Primary recruitment of Software Developers, Java Developers, Python Developers, Cyber Analysts, Systems Analysts, Systems Engineers, Architects, Cloud Engineers, and various other Information Technology disciplines

XATOR CORPORATION — Fairfax, Virginia
Human Resources - Talent Acquisition Recruiting — October 2019 – March 2020

- Full Desk/full life cycle recruiting, Job requisition analysis, Compensation analysis, offer negotiations, salary justifications, competitive market analysis. Data and metrics analysis of the competitive market regarding total rewards, talent, and branding initiatives/strategic planning

- Primary recruitment of Software Developers, Java Developers, Python Developers, Cyber Analysts, SIGINT Analysts, All Source Analysts, HUMINT Analysts, and Counter Intelligence Analysts

- Contracts Recruited: DCTC | MARFORCYBER | RAPTOR | CFE | CETC | CED | Trident

- Utilize daily LinkedIn Recruiter, Clearancejobs.com, Monster.com, Indeed.com, Glassdoor.com, and ADP-Applicant Tracking

THE BUFFALO GROUP — Reston, Virginia
Human Resources - Talent Acquisition Recruiting — January 2018 – October 2019

- Job requisition analysis, writing, and publication. Compensation analysis, offer negotiations, salary justifications, competitive market analysis. Full life cycle/full desk recruiting of cleared professionals in the Information Technology and Intelligence Industries. Conduct sourcing, interviews, clearance verifications, scheduling of technical interviews, polygraph scheduling, offer letter generation, salary negotiations, and HR processing/on-boarding

- Advisement and implementation of Human Resources staffing principles, laws, policies, regulations, and best practices in support of diversity initiatives, government client customers, and the overall success of the recruitment and placement division

- Advised managers and supervisors on policies and procedures for recruitment and staffing, job analysis, vacancy announcement; and analyzing qualifications of applicants. Data and metrics analysis of the competitive market regarding total rewards, talent, and branding initiatives/strategic planning

- Attend career fairs, cleared events, and technical meetups at various colleges, military bases, hotels, and other venues

MISSION ESSENTIAL Reston, Virginia
Human Resources - Talent Acquisition Recruiting March 2017 – January 2018

- Conducted full life-cycle recruitment and processing of candidates for the DIA, NSA, and the DOD for various defense contracts including Valdosta, Habeas Corpus, JAC Omnibus, AIS/ISSA, and AF/PK Task Force

- Sourcing of candidate databases such as Clearancejobs.com, Indeed.com, LinkedIn.com, Monster.com, IntelligenceCareers.com, Glassdoor.com and ZipRecruiter.com

- Regular attendance of military and agency job fairs as well as corporate networking events

- Conducted statement of work matching, interviewing, offer letter generation, agency security processing, agency approvals, and final employment contract guidance/onboarding

UNITED STATES ARMY - ACTIVE DUTY Various Locations
Signals Intelligence Analyst June 2010 – March 2017

- As a Signals Intelligence Analyst, collected, analyzed, and reported geolocation intelligence, RF signature intelligence, geospatial intelligence, traffic intelligence, DNR, DNI, All Source, and fusion intelligence in support of counter insurgency and conventional threat missions across the globe

- As a Target Analyst Reporter | Fusion Analyst, collected analyzed, and disseminated critical strategic and tactical intelligence to include, Geolocation, Order of Battle, enemy signals, and networking intelligence to the global intelligence community and National Security Agency

- Provided intelligence to battlefield commanders, strategic intelligence partners, and Pentagon level officials

REWARDS AND ACCOMPLISHMENTS

- The Buffalo Group | Presidents Club– 2018, 2019 | – Awarded to top 10% personnel within the company
- Mission Essential | Recruiter of the Month Award | - August 2017
- Mission Essential | Recruiter of the Quarter Award | - July-Aug 2017
- United States Army | Army Commendation Medal | 2 Army Achievement Medals | 2 Army Good Conduct Medals | National Defense Service Medal | Global War on Terrorism Medal | Overseas Service Ribbon | Driver and Mechanic Badge

The Jefferson County Commission proposes to name persons to serve on the following Authorities, Boards, Commissions, or Committees on Thursday, January 18, 2024, or as soon thereafter as the Commission may decide:

- **Board of Zoning Appeals - two (2) three-year terms ending January 1, 2027; and two alternate* positions ending January 1, 2025 and January 1, 2027, respectively.**

  Alternates: Alternate members shall have all powers and duties of a regular Board member when sitting on a case and shall continue to participate in the case until a final decision is reached. Alternate members shall serve by rotation based upon seniority of appointment to the Board.

- **Eastern Panhandle Transit Authority Board of Directors - two (2) three-year terms ending January 31, 2027**

Persons who may be interested in the above listed agencies should submit a letter of interest and a resume or statement of qualifications to the Jefferson County Commission, P.O. Box 250, Charles Town, WV 25414 no later than 12:00 pm the Monday prior to the proposed date of appointment.

Additional information regarding these appointments may be obtained by calling the Commission Office at (304) 728-3284.

Eastern Panhandle Transit Authority | 2024

Members currently serving

Name	Expiration	Contacted/Intention
Andrew Mollohan	01/31/2024	Yes - wishes to be reappointed – email attached
Joy Lewis	01/31/2024	Yes – not sure of intention. did not rcv. confirmation
Jennifer Brockman	01/31/2026	
Elizabeth Ricketts	01/31/2026	

Jessica Carroll

From: Andrew Mollohan <andrewmollohan@gmail.com>
Sent: Wednesday, January 3, 2024 6:16 PM
To: Jessica James
Subject: Re: Notice of Term Expiration - EPTA Board of Directors

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or on clicking links from unknown senders.

Ms. James,
Thank for the notice of term expiration. I am interested in another term on the EPTA BOD if the County Commission will have me. Please let me know if I need to draft a formal letter of interest. Thank you.

Andy Mollohan

Andrew W. Mollohan
202-557-6602

On Wed, Dec 13, 2023 at 3:30 PM Jessica James <jjames@jeffersoncountywv.org> wrote:

Mr. Mollohan –

Please see attached re: the expiration of your term on the Eastern Panhandle Transit Authority Board of Directors. If you have any questions, please let me know.

Thank you,

Jessica James

Assistant Deputy County Administrator

Jefferson County Commission

PO BOX 250

Charles Town, WV 25414

(p) 304-728-3282

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

January 10, 2024

Dear Commissioners:

Since you appointed me in 2021, I have severed as a Director on the Eastern Panhandle Transit Authority (EPTA) Board. I am expressing my interest in reappointment to the EPTA Board of Directors for the 2024 to 2027 term. Please find enclosed my resume for your review.

Presently, I work as a performance audit manager for the Amtrak Office of Inspector General, where I conduct performance audits and make recommendations to improve Amtrak's business processes. This experience translates seamlessly to the oversight function of the EPTA Board. As a Director for the past three years, I have provided advice and oversight on many issues relating to EPTA's operations—ranging from service expansion and equipment acquisition to employee retention and construction of the new transit center in downtown Martinsburg.

My interest in serving on the EPTA Board is to ensure EPTA continues to function efficiently and appropriately, and to provide our community with safe, clean, and reliable alternative modes of transportation. Considering my experience on the Board thus far, and my familiarity with its current operations and ongoing expansion plans, I can help ensure EPTA continues to provide the quality service we expect, and it continues to be a good steward of taxpayer funds.

I would appreciate your consideration for reappointment to the EPTA Board of Directors, and I look forward to hearing from you.

Respectfully,

Andrew W. Mollohan
419 Prospect Avenue
Harpers Ferry, WV 25425
202-557-6602
andrewmollohan@gmail.com

Andrew W. Mollohan

andrewmollohan@gmail.com
202-557-6602

Amtrak Office of Inspector General (OIG)
Senior Audit Manager, Washington D.C., May 2021 - Present
Senior Auditor Lead, April 2020 - May 2021
Senior Auditor, May 2019 – April 2020
Auditor, March 2015 – May 2019

- Manages performance audits of Amtrak business operations; projects include the review of Amtrak's Long Distance Fleet Replacement Program, New Acela Program, Intercity Trainset Program acquisition, the Gateway Program, Safety Management System, Injury Claims Data, Safety Culture, New Acela Delivery, Amtrak's Private Car business, New Acela Procurement, FAST Act Boarding Audit, among others
- Develops and maintains understanding of Amtrak's business processes and operations, passenger rail policy issues, NEC infrastructure (including Gateway), and related Federal legislative and regulatory activity
- Initiates, designs, plans, and executes all phases of a performance audit to identify potential waste, fraud, and abuse of Amtrak programs, projects, and businesses
- Drafts, edits, and prepares final reports for publication. Drafts text for message documents, including internal memorandums to senior OIG leadership and external press releases
- Briefs OIG senior leadership regularly throughout the course of an audit, as well as members of Amtrak's Executive Leadership Team as requested
- Manages and delegates audit tasks to team staff. Mentors junior staff, including identifying opportunities for junior staff development
- Generates audit proposals and helps draft the annual audit plan to ensure the Office of Audits addresses high-impact issues that add value to the company, and contribute to the national conversation on passenger rail

U.S. Rep. Nick J. Rahall, II (retired)
Legislative Assistant, Washington D.C., September 2012 – January 2015

- Developed and monitored policy initiatives, drafted legislation, talking points, press releases, mass mailings, and opinion columns related to small business, finance, tax, trade, entitlements, health care, and other issues as assigned
- Briefed the Congressman on all legislative activities, vote recommendations, floor and committee action, and district events within assigned issue areas
- Consulted with senior House Transportation and Infrastructure Committee staff on which the Congressman served as Ranking Member
- Met with constituents and interest groups to understand constituent policy positions and input on specific legislation and appropriations, and acted as a liaison with Federal agencies for the Congressman in their behalf

Andrew W. Mollohan
andrewmollohan@gmail.com
202-557-6602

Remington Executive Suites
Marketing and Operations Consultant, Washington, D.C., August 2011 – August 2012

- Managed sales and daily operations of a short-term housing business catering to government and corporate clientele

International Trade Administration, Office of Europe
Market Access and Compliance Intern, Washington, D.C., January 2011 – June 2011

- Liaised with business executives to promote the administration's National Export Initiative for the Deputy Assistant Secretary for Market Access and Compliance, Office of Europe

Education

- Shenandoah University, Winchester, Virginia - Master of Business Administration, 2010
- Sterling College, Craftsbury, Vermont - Bachelor of Arts, 2008

Professional Accomplishments and Ancillary Activities

- Amtrak Office of Inspector General Distinguished Service Award 2022
- Council of the Inspector General on Integrity and Efficiency (CIGIE) Audit Award for Excellence 2017, 2018, and 2020
- Board of Directors, Eastern Panhandle Transit Authority

AGENDA REQUEST FORM

www.jeffersoncountywv.org

APPROVED JJ
DEC 21 2023
County Commission
of Jefferson County, WV

Name: James B Crawford, III, Esquire, Crawford Law Group, PLLC

Department or Organization: RAI Properties, LLC and G & S Properties, LLC

Estimation of amount of time needed for appointment: 15 Minutes.

Date Requested – 1st Choice: **December 21, 2023**
If a specific date is needed, please provide reason for specific date:

*Public Hearing Scheduled
Thursday, Jan. 18, 2024
7:00 pm

Date Requested – 2nd Choice:

Subject (*Wording to be placed on agenda*): **Receive Petition of ROW/Easement Abandonment and Schedule Public Hearing Pursuant to Section 7-1-3H, Code of West Virginia, 1931, as amended.**

Please provide the County Commission with a description of your request or presentation, including any background information:

- Request for the County Commission of Jefferson County to receive a Petition of Abandonment of an old and unused Easement/ROW that Bisects Lots 43B and 42B in the Burr Industrial Park and for the Commission to Schedule a Public Hearing for such action as explained in the attached Petition and Section 7-1-3H, Code of West Virginia

Is this a funding request? Y/N NO
If so, how much? $
Provide exact financial impact/request: Zero

Recommended motion (*Please type out the wording of the motion that you would like the Commission to approve*):
Motion to accept the Petition filed on behalf of RAI Properties, LLC and G&S Properties, LLC and to Schedule a Public Hearing that meets the appropriate required Public Notice.

Attach supporting documents for request, or request may be denied. Attached
If not attached, explain:

Is equipment needed? Projector Y/N Internet/Wi Fi Y/N Telephone for conference call Y/N

Contact information: James B Crawford
Email address: jbciii@clgpllc.com Phone Number: 304/725-3426

FOR COMMISSION STAFF USE ONLY – FINANCIAL IMPACT/RECOMMENDATION
not applicable

BEFORE THE COUNTY COMMISSION OF JEFFERSON COUNTY, WEST VIRGINIA

IN RE: APPLICATION OF G & S PROPERTIES, LLC, RAI PROERTIES, LLC AND JEFFERSON COUNTY DEVELOPMENT AUTHORITY, PURSUANT TO WEST VIRGINIA CODE 7-1-3H, 1931 AS AMENDED

NOTICE

Please take Notice that the County Commission of Jefferson County, West Virginia shall conduct a hearing on the above entities Petition seeking to vacate an unused abandoned road situate in the Charles Town District, Jefferson County, West Virginia and is bounded by G & S Properties, LLC and RAI Properties, LLC being a portion of the previously abandoned 16' county road which runs in a northerly direction from the north side of West Virginia State Route 9, now West Virginia State Route 115 to the Baltimore and Ohio Railway, now CSX Railroad, which is attached to the Petition filed with the Commission on January 18, 2024 at 7:00 O'clock PM..

Please take further Notice that on that date, the Petitioners will appear and will petition the County Commission to enter an order vacating that portion of the road which is shown on a plat made by Appalachian Surveys, entitled "Plat of Surveys Showing Property of Gary Ayres dated December 31, 1986" which is also attached to the Petition and is also recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia in Plat Book 10 at Page 10.

G & S Properties, LLC, RAI Properties, the Petitioners
By: James B. Crawford, III, Counsel for the Petitioners

1t

BEFORE THE COUNTY COMMISSION OF JEFFERSON COUNTY, WEST VIRGINIA

In Re: Application of G&S Properties, LLC, RAI Properties, LLC, both West Virginia Limited Liability Companies, Jefferson County Development Authority, a public corporation.

Pursuant to Section 7-1-3H, Code of West Virginia, 1931, as amended,

PETITION

1. G&S Properties, LLC is Owner of all of Lot 43B, Burr Industrial Park, containing 6.178 acres which plat was prepared by Ed Johnson & Associates, Inc. dated October 9, 2013, which is recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia in Plat Book 25, at Page 414. G&S Properties, LLC purchased this property from RAI Properties, LLC by a deed dated May 29, 2019, which is recorded in the aforesaid Clerk's Office in Deed Book, 1224 at Page 602. The Parcel is located in the Charles Town District and is known as Map 1, Parcel 0027 0005.
2. RAI Properties, LLC is the owner of Lot 42B, Burr Industrial Park, containing 3.36 acres, more or less, which plat was prepared by Richard W. Klein, P. E. Kelli Gidley, Blair & Wolfe, Inc., entitled "Final Plat Showing Lots 1 – 44 for the Burr Industrial Park dated December 1990" and recorded in the aforesaid Clerk's Office in Plat Book 25, at Page 10. There was a deed of confirmation from RAI Properties, LLC dated October 16, 2013, and recorded in the aforesaid Clerk's Office in Deed Book 1130 at Page 599. The Parcel is located in the Charles Town District and is known as Map 1, Parcel 0094 0000.
3. This Commission by its Order dated August 16, 1990, vacated, and abandon a portion of 16' road of an old county road which runs in a northerly direction from the north side of West Virginia State Route 9, now WV Route 115, to the Baltimore and Ohio Railroad Right of Way, now CSX Railroad. A copy of the Commission's Order is attached as Exhibit A.

4. The Commission's Order stopped short of vacating and abandoning the full 16-foot county road from Route 115 to the railroad right of way and as a result it currently burdens Lot 42B and 43B as set forth above, which is more particularly set forth on a portion of a plat entitled Exhibit B-1 which is recorded in the aforesaid Clerk's Office in Plat Book 10 at Page 10. The road is also shown on a plat made by Appalachian Surveys, Inc. entitled "Plat of Survey Showing Property of Gary Ayers dated December 31, 1986, which is attached hereto as Exhibit C.
5. By the Commission's aforesaid Order, the Commission vacated only a portion of the 16' wide county road as set forth on Exhibit B-2 being shown in yellow on the aforesaid plat. The portion which is shown in pink was not vacated by the Order of the County Commission of August 16, 1990, for reasons that are unknown to your Petitioners. In reviewing the Commission's Order of August 16, 1990, the description as set forth therein should have provided for a vacation of the county road as set forth and described on the Appalachian Plat, being 1,186.55' as opposed to the Commission's order which limits the vacation of the Old County Road to 632'.
6. The Petitioners believe that the failure of the County Commission to vacate the entire 16' abandoned county road is an oversight and causes a burden upon their properties and creates a title impediment which decreases the value of their properties. The Petitioners further allege that the road in question has no use or purpose to the County Commission or any citizen of Jefferson County, West Virginia. The Petitioners have no explanation as to why the County Commission, in 1990, failed to vacate the entire 16' right of way from Route 115 to the CSX Railroad.

7. The Petitioners attach as Exhibit D a description that will vacate the right of way to the old county road from the point of its initial vacation to the CSX Railroad.
8. The petitioner Jefferson County Development Authority is joined in this petition to show is consent to this abandonment.

WHEREFORE, the Petitioners pray that the County Commission hold such hearings as necessary and that the County Commission enter an Order effectively vacating the entire 16' road and abandon the same and to correct an oversight which burdens the properties of the Petitioners herein.

G&S Properties, LLC and RAI Properties, LLC, both West Virginia Limited Liability Companies,

By Counsel

James B. Crawford III
120 N George Street, Suite 100
Charles Town, WV 25414
WVSB# 866

STATE OF West Virginia

COUNTY OF Jefferson, to-wit:

The undersigned affiant, who is the Managing Member of the RAI Properties, LLC, a Petitioner, after being first duly sworn, says that the facts and allegations therein contained are true, except insofar as they are therein stated to be on information, and that insofar as they are therein stated to be on information, he believes them to be true.

RAI Properties, LLC.

James K. Ruland, Managing Member

Taken, subscribed, and sworn to before me this 30 day of November 2023.

Commission expiration date
and seal:

12 7-25

NOTARY PUBLIC

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
Kristen Engelke
Notary Id: 309584
105 Lewisburg Lane
Martinsburg, WV 25403
My Commission Expires 12/07/2025

STATE OF West Virginia

COUNTY OF Berkeley, to-wit:

The undersigned affiant, who is the Member G&S Properties, LLC. a Petitioner, after being first duly sworn, says that the facts and allegations therein contained are true, except insofar as they are therein stated to be on information, and that insofar as they are therein stated to be on information, she believes them to be true.

G&S Properties, LLC

Gary W. Kelley, Member

Taken, subscribed, and sworn to before me this 30 day of November 2023.

Commission expiration date
and seal:

12-7-25

NOTARY PUBLIC

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
Kristan Engelke
Notary Id: 308584
105 Lewisburg Lane
Martinsburg, WV 25403
My Commission Expires 12/07/2025

5809

BEFORE THE COUNTY COMMISSION OF JEFFERSON COUNTY, WEST VIRGINIA

IN RE: THE APPLICATION OF JEFFERSON COUNTY DEVELOPMENT AUTHORITY, PURSUANT TO SECTION 7-1-3h, CODE OF WEST VIRGINIA, 1931, AS AMENDED

ORDER

THIS MATTER came on to be heard this 16th day of August, 1990, before the County Commission of Jefferson County, West Virginia, with the following Commissioners being present: Henry Morrow, Sr., Charles Clendening, III, Greg Lance, and Edgar Ridgeway; upon the Application of the Jefferson County Development Authority, pursuant to Section 7-1-3h, Code of West Virginia, 1931, as amended; upon the notice by publication, pursuant to law; upon notice to the West Virginia Economic Development Authority and Peoples Bank of Charles Town, lien holders; upon the appearance of the Applicant by and through its counsel, Nancy A. Dalby.

The Commission then took the evidence and testimony of divers witnesses and based upon such evidence and testimony, the Commission makes the following findings of fact:

1. That the Jefferson County Development Authority is a public corporation established under and validly existing in good standing by virtue of the laws of the State of West Virginia, having its principal place of business in Charles Town, West Virginia, and having as its principal business activities development in Jefferson County.

2. That the Jefferson County Development Authority is the owner in fee of that portion of of a parcel of land near Bardane in the Charles Town District of Jefferson County, West

Exhibit A

Virginia and running across said parcel of land is a 16 foot county road right of way which runs in a northerly direction from the north side of West Virginia State Route 9 to the Baltimore and Ohio Railroad Right of Way along the easterly boundary line of Parcel 2, which said road is shown on a plat prepared by Appalachian Surveys, Inc. dated December 31, 1986, entitled "Plat of Survey Showing Property of McGarry Heirs", recorded in the office of the Clerk of the County Commission of Jefferson County, West Virginia in Plat Book 7 at page 68(a), said road also being shown on an 1883 map of Jefferson County by H. S. Howell and a plat in Deed Book 90 at page 416.

3. That said parcel of land is the site of the proposed Burr Industrial Park.

4. That the said road is no longer in use.

5. That the said road is located totally within the bounds of the property owned by the Development Authority and is not abutted by any other land owners.

6. That the West Virginia Economic Development Authority and Peoples Bank of Charles Town are all of the lien holders on the property.

Whereupon, the Commission, having taken a poll of its members, and its members voting _____ in favor and _____ opposed and _____ abstention, and by virtue of the authority vested in the Commission under Section 7-1-3h, Code of West Virginia, as amended, does hereby declare and order as follows:

Parcel 2, N 02 degrees, 26 feet, 58 inches E, 632 feet, be closed, vacated and forever abandoned.

DATED:
8/23/90

HENRY W. MORROW, SR.
President, County Commission of Jefferson County, West Virginia

John E. Ott, Clerk
County Commission of Jefferson County, West Virginia

State of West Virginia, County of Jefferson, Sct.
IN THE CLERK'S OFFICE OF THE COUNTY COMMISSION:

On AUG 28 1990, at 3:50 P.M., the foregoing document was received in my said office and duly admitted to record.

Test,

John E. Ott,
Clerk of County Commission

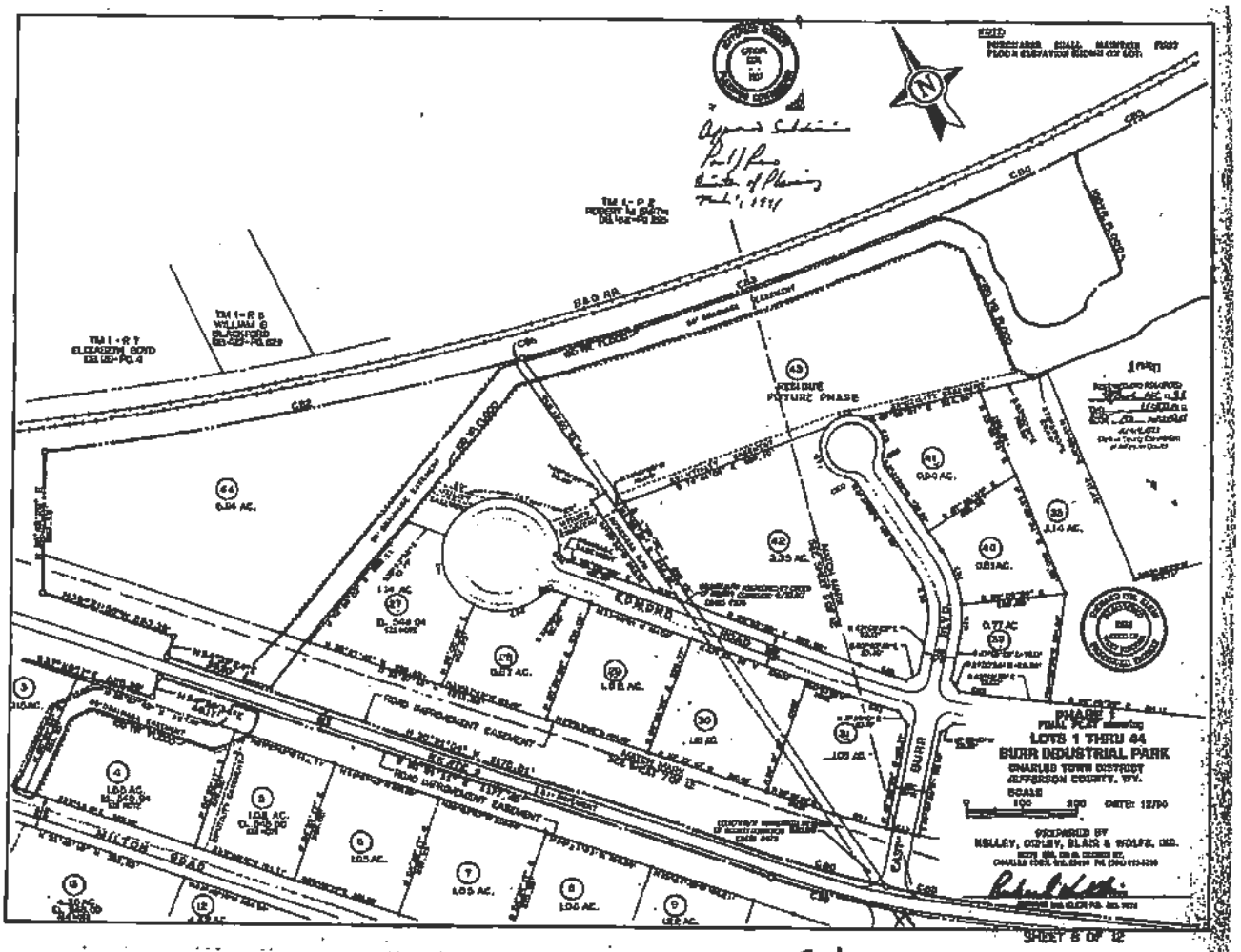
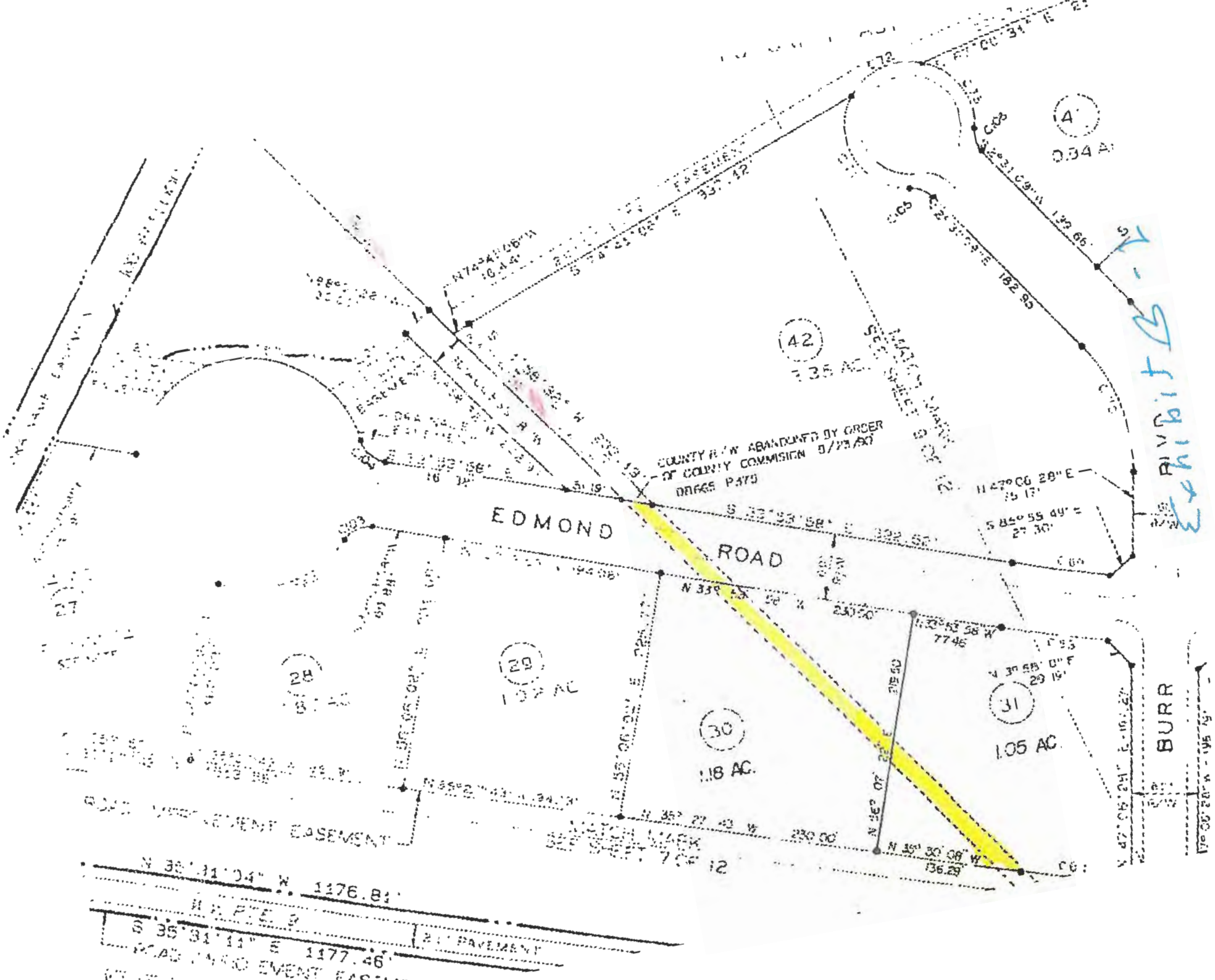

PHASE I
FINAL PLAT
LOTS 1 THRU 44
BURR INDUSTRIAL PARK
CHARLES TOWN DISTRICT
JEFFERSON COUNTY, WV.
SCALE
PREPARED BY
KELLEY, OGDEN, BLAIR & WOLFE, INC.
LONDON ROAD
BURR BLVD.
MILTON ROAD
SHEET 6 OF 12

Exhibit B-1


EDMOND ROAD
COUNTY R/W ABANDONED BY ORDER OF COUNTY COMMISION 5/75 AD
DB665 P.575
42
1.35 AC.
41
0.34 AC.
30
1.18 AC.
29
1.02 AC.
28
31
1.05 AC.
BURR
N 35° 31' 04" W 1176.81'
S 35° 31' 11" E 1177.46'
21' PAVEMENT
EASEMENT
Exhibit A-1

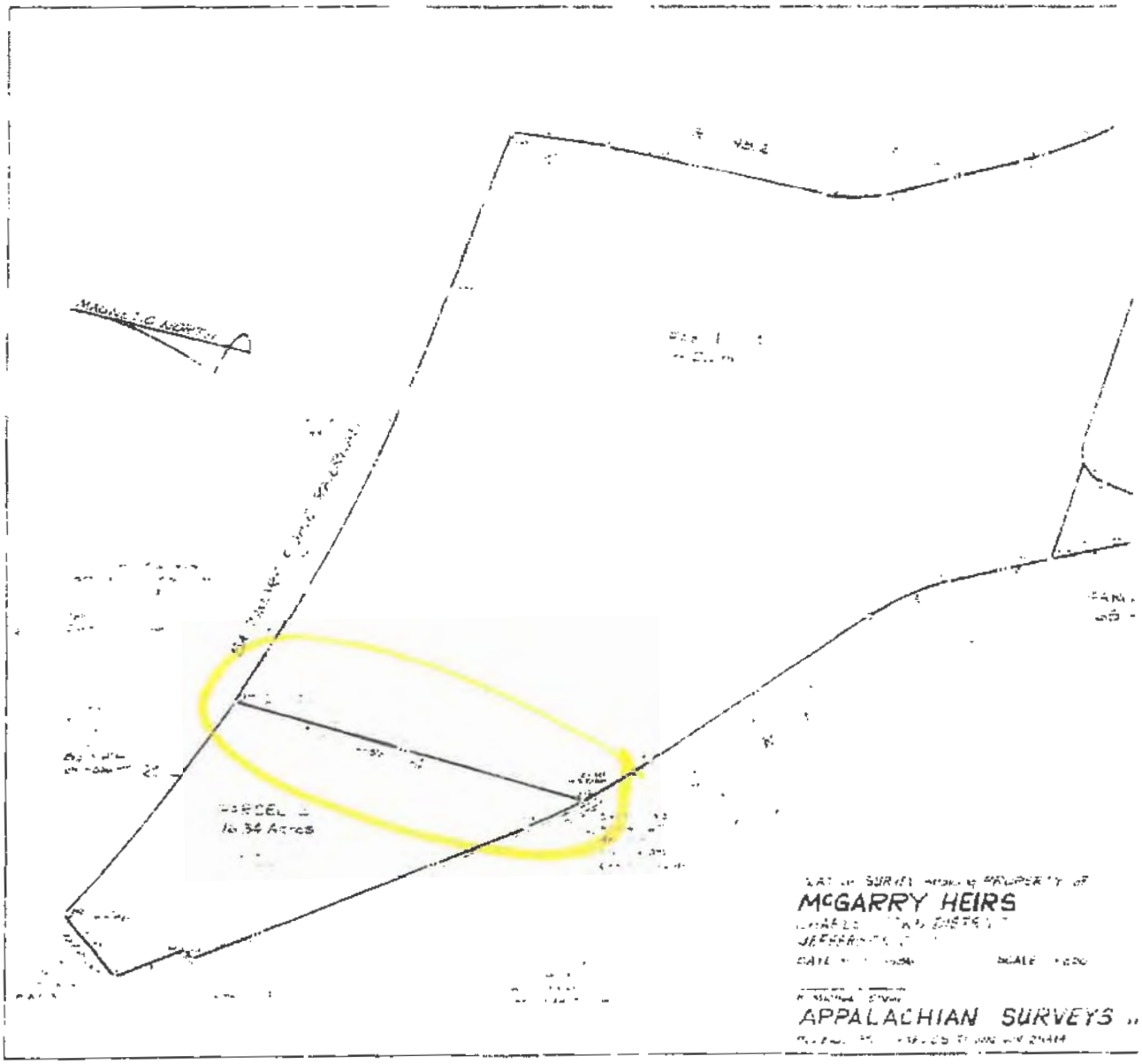


Exhibit B

Exhibit C

RESOLUTION

The Jefferson County Development Authority hereby consents to the abandonment of the property described herein and releases any right, title, claim or interest in the property pursuant to a resolution of the Directors of the Public Corporation.

Jefferson County Development Authority, a public corporation

_____

Gino Sisco, President

Taken, subscribed and sworn to before me this ___ day of December 2023 by Gino Sisco, President of the Jefferson County Development Authority on behalf of the corporation.

My commission expires:

_____

Notary Public

_____

BEFORE THE COUNTY COMMISSION OF JEFFERSON COUNTY, WEST VIRGINIA

IN RE: APPLICATION OF G & S PROPERTIES, LLC, RAI PROERTIES, LLC AND JEFFERSON COUNTY DEVELOPMENT AUTHORITY, PURSUANT TO WEST VIRGINIA CODE 7-1-3H, 1931 AS AMENDED

NOTICE

Please take Notice that the County Commission of Jefferson County, West Virginia shall conduct a hearing on the above entities Petition seeking to vacate an unused abandoned road situate in the Charles Town District, Jefferson County, West Virginia and is bounded by G & S Properties, LLC and RAI Properties, LLC being a portion of the previously abandoned 16' county road which runs in a northerly direction from the north side of West Virginia State Route 9, now West Virginia State Route 115 to the Baltimore and Ohio Railway, now CSX Railroad, which is attached to the Petition filed with the Commission on _____ at _____O'clock __M.

Please take further Notice that on that date, the Petitioners will appear and will petition the County Commission to enter an order vacating that portion of the road which is shown on a plat made by Appalachian Surveys, entitled "Plat of Surveys Showing Property of Gary Ayres dated December 31, 1986" which is also attached to the Petition and is also recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia in Plat Book 10 at Page 10.

G & S Properties, LLC, RAI Properties, LLC and
Jefferson County Development Authority

By: James B. Crawford, III, Counsel for the Petitioners

EXHIBIT D

That certain parcel of land near the Village of Bardane in the Charles Town District of Jefferson County, West Virginia by virtue of a Deed from the County Commission of Jefferson County recorded in the office of the Clerk of the County Commission in Deed Book 598 at Page 46, as shown running across the parcel of land is a 16 foot county road right of way which runs in a northerly direction from the north side of West Virginia State Route 115, formerly Route 9, to the CSX Railroad Right of Way, formerly the Baltimore and Ohio Railroad, along the easterly boundary line of Parcel 2, which said road is shown on a plat prepared by Appalachian Surveys, Inc. dated December 31, 1986, entitled "Plat of Survey Showing Property of McGarry Heirs", recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia in Plat Book 7 at Page 68(a), said road also being shown on an 1883 map of Jefferson County by H.S. Howell and a plat in Deed Book 90 at Page 416.

JEFFERSON COUNTY COMMISSION
AGENDA REQUEST FORM

Name: Elizabeth Wheeler

Department or Organization: Farmland Protection Board

Commission Meeting Date: January 18, 2024

Special Meeting Date (if necessary):

Subject (*wording to be placed on agenda*):

Approval of purchase of one Agricultural Conservation Easement

Please provide a description of your request or presentation, including any background information:

The attached Deed of Easement for Property 2022-03 has been approved by the Jefferson County Farmland Protection Board and reviewed and approved by the Planning and Zoning Office and the Office of the Prosecuting Attorney. The easement is ready to close. Funding is provided for the easement through the Jefferson County Farmland Protection Board and the NPS/American Battlefield Protection Program. The 2022-03 easement is for 149.6 acres with a cost to the board of $486,234. The landowner is donating $335,535 of easement value.

Type of Request: (Funding/Hiring): N/A

Funding/Salary/Hourly Amount:

Name of Hire (if Applicable):

Grade/Step/Hours (PT/FT):

Start Date (beginning of pay period):

Post Probationary Increase (If applicable):

Any Additional Conditions of Employment or Funding Comments:

Recommended Motion (*type out wording of the motion you would like the Commission to approve*):

That the Jefferson County Commission approve the purchase by the Jefferson County Farmland Protection Board for the Jefferson County Farmland Protection Program one conservation easement on the property in Jefferson County owned by Aspen Pool Farm, LLC. (Property 2022-03).

Attach supporting documents for request, or request may be denied.
If not attached, explain:

Is equipment needed? ☐ Projector ☐ Internet/Wi Fi: ☐ Conference/Video ☑ No

Contact Information: Elizabeth Wheeler Phone Number: 304-728-3380
Email Address: jefferson@wvfp.org

JEFFERSON COUNTY COMMISSION
AGENDA REQUEST FORM

Additional Comments Page:

Attached: Deed of Conservation Easement, Plat, and Map of protected properties in Jefferson County showing the Property 2022-03 parcel colored red.

Locations of Proposed Easements

This document was prepared by
[Elizabeth Wheeler]

DEED OF BATTLEFIELD CONSERVATION EASEMENT and DECLARATION OF COVENANTS

Aspen Pool Farm LLC on the

Shepherdstown Battlefield

Jefferson County WV

EASEMENT FILE NO. Aspen Pool LLC 2022-03

THIS DEED OF BATTLEFIELD CONSERVATION EASEMENT and DECLARATION OF COVENANTS (this "Conservation Easement") made this _____ day of _____, 2024, by **ASPEN POOL FARM LLC**, a West Virginia limited liability company, and its successors and assigns, whose address is 1378 Trough Road, Shepherdstown, WV 25443 ("Grantor"); and **JEFFERSON COUNTY FARMLAND PROTECTION BOARD**, whose address is P.O. Box 731, Charles Town, WV 25414 ("Grantee").

WITNESSETH:

WHEREAS, Grantor is the owner in fee simple of certain parcels of real property situated in Shepherdstown District, Jefferson County, West Virginia containing in the aggregate 149.608 acres, more or less, as more particularly described in Exhibit "A" attached hereto and made a part hereof (the "Protected Property"); and

WHEREAS, the Protected Property is also shown on that certain plat entitled "Conservation Easement" dated December 7, 2021, prepared by Keller Engineers and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia (the "Clerk's Office") in Plat Book ____ at Page ____ (the "Conservation Easement Plat"); and

WHEREAS, the Protected Property is part of the Tract One and Tract Two described in that certain Confirmatory Deed, dated August 17, 2016, by and between Aspen Pool Farm, Inc.,

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Trustee, and Grantor and recorded in the Clerk's Office in Deed Book 1178, at Page 468 (the "Confirmatory Deed"); and

WHEREAS, the Protected Property possesses agricultural, historic, scenic, natural, open-space and aesthetic values in its present state which has not been subject to extensive development or exploitation; and

WHEREAS, Grantee is a qualified organization under the West Virginia Conservation and Preservation Easements Act, West Virginia Code §§20-12-1 et seq., as amended (the "Conservation and Preservation Easements Act"), empowered to hold perpetual conservation and preservation easements in Jefferson County, West Virginia and authorized to receive properties and easements in gross or other interests in properties for the purpose of, among other things, the preservation and protection of such designated landmarks, and Grantee has the resources to enforce the restrictions set forth in this Conservation Easement; and

WHEREAS, Grantee is a public agency established to provide landowners with an opportunity to voluntarily protect agricultural land in Jefferson County, West Virginia by the placement of conservation or preservation easements on eligible property; and

WHEREAS, the Protected Property, which includes unimproved farmland and woods, provides "open space (including farmland and/or forestland)" as that phrase is used in P. L. 96-541, 26 U.S.C. § 170(h)(4)(A)(iii), and other historic battlefield and battlefield landscape, cultural, scenic and natural values such as prime, unique, statewide or locally important soils (collectively the "Conservation Values") of great importance to Grantor, the people of Jefferson County, and the people of the State of West Virginia, and all current and future generations of mankind, and the Protected Property benefits the general public, specifically through the preservation of prime agricultural land, maintenance of cropland, and pastureland and the practice of soil and water conservation measures; and

WHEREAS, Grantor and Grantee desire to protect in perpetuity the Conservation Values and the historic battlefield and battlefield landscape including the historic, archeological, open-space, agricultural and scenic purposes specified in Exhibit "B" attached hereto and made a part hereof (collectively, the "Conservation and Preservation Values and Purposes") by restricting the use of the Protected Property pursuant to the terms and conditions of this Conservation Easement, and Grantor desires to grant and convey to Grantee, and Grantee is willing to accept, a perpetual conservation easement over the Protected Property, all as more particularly set forth herein; and

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WHEREAS, the State of West Virginia has a public interest in ensuring that the Protected Property be protected for battlefield preservation purposes in perpetuity. Additionally, the West Virginia Department of Arts, Culture and History's ("WVDACH") involvement and oversight of activities proposed at or conducted on the site is critical to protecting and preserving the interest of the State of West Virginia; and

WHEREAS, the State of West Virginia has (a) authorized the creation of "conservation easements" as defined in and pursuant to the Conservation and Preservation Easements Act and the West Virginia Voluntary Farmland Protection Act, West Virginia Code §§ 8A-12-1 et seq., as amended (the "Farmland Protection Act"), and (b) recognized the importance and significant public benefit of such easements in its ongoing efforts to protect the natural, historic, agricultural, open-space and scenic resources of the State of West Virginia; and

WHEREAS, the County Commission of Jefferson County, West Virginia ("County Commission") has declared that the agriculture community of Jefferson County provides sources of agricultural products for the citizens of the state; enhances tourism, protects worthwhile community values, institutions and landscapes which are inseparably associated with traditional farming; and controls urban expansion which is consuming land, topsoil and woodland of the county; and

WHEREAS, the County Commission has resolved to provide persons of Jefferson County an opportunity to voluntarily protect agricultural land by creating the Jefferson County Farmland Protection Board and authorizing it to create and administer the Jefferson County Farmland Protection Program; and

WHEREAS, Grantee is a public agency established under the Farmland Protection Act to provide landowners with an opportunity to voluntarily protect agricultural land in Jefferson County, West Virginia by the voluntary placement of conservation or preservation easements on eligible property; and

WHEREAS, Grantee affirms that this Conservation Easement represents a unique and valuable asset to the quality of life in Jefferson County and the state of West Virginia and that by the acceptance of this Conservation Easement that it will act in good faith to uphold the conservation easement and not seek to benefit from its conversion or elimination. It agrees by accepting this grant to honor the intentions of Grantor stated herein and to preserve and protect in

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perpetuity the Conservation and Preservation Values and Purposes for the benefit of this generation and the generations to come; and

WHEREAS, the Protected Property lies within the Battlefield Boundary of the Battle of Shepherdstown as determined by the Civil War Sites Advisory Commission (the "CWSAC"), a Commission appointed by Congress and the Secretary of the Interior in 1990 to identify and evaluate the nation's historically significant battlefield sites; and

WHEREAS, the CWSAC has given the Battle of Shepherdstown (WV016) a Preservation Priority II Class C Rating; and

WHEREAS, the Protected Property also lies within the Battlefield Boundary of the Battle of Antietam as determined by the Civil War Sites Advisory Commission (the "CWSAC"), which Commission was appointed by Congress and the Secretary of the Interior in 1990 to identify and evaluate the nation's historically significant battlefield sites. The CWSAC has given the Battle of Antietam (MD003) a Preservation Priority II Class A Rating; and

WHEREAS, the Protected Property is an "historically important area" as that phrase is used in 26 USC § 270(h)(4)(A)(iv), specifically encompassing land in the Confederate Army's approach and retreat from Antietam Battlefield as reported by the CWSAC; and

WHEREAS, the National Park Service's American Battlefield Protection Program ("ABPP") under the authority of the American Battlefield Protection Program Authorization of 2009 (54 U.S.C. §308103), awarded a grant from the Land and Water Conservation Fund to the Jefferson County Farmland Protection Board for the acquisition of this Deed of Conservation Easement and, as such, is subject to what is commonly known as and referred to herein as Section 6(f)(3) of the Land and Water Conservation Fund Act, 54 U.S.C. § 200305(f)(3) 0310; and

WHEREAS, in accordance with the American Battlefield Protection Program Authorization of 2009, 54 U.S.C. §308103, and with Section 6(f)(3) of the Land and Water Conservation Fund Act ("LWCF"), the Protected Property can be converted to a use other than conservation only upon the written permission of the Secretary of the Interior, acting through the ABPP, and only upon the substitution of other land of equal market value and usefulness for conservation/recreation purposes to be perpetually protected for conservation purposes and then only under the terms and conditions set forth in this Conservation Easement; and

WHEREAS, the Grantee is a governmental unit as defined in section 170 (c)(1) of the Internal Revenue Code of 1986, as amended (or any successor section) and the regulations

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promulgated thereunder (the "Internal Revenue Code") qualified under Section 170(h) of the Internal Revenue Code to receive qualified conservation contributions, whose purpose is to preserve land for natural, historic, open space, scenic, recreational, environmental, agricultural, scientific, charitable, educational and aesthetic purposes; and

WHEREAS, this Conservation Easement is intended to constitute (i) a "qualified conservation contribution" (as defined in Internal Revenue Code §170(h)(1)) and (ii) a "qualified real property interest" (as defined in Internal Revenue Code §170(h)(2)(C)) for a perpetual restriction on the use of that real property; and

WHEREAS, this Conservation Easement is granted "exclusively for conservation purposes" under Internal Revenue Code §170(h)(1) because it effects "the preservation of an historically important land area" under Internal Revenue Code §170(h)(4)(A)(iv) and "the preservation of open space" under Internal Revenue Code §170(h)(4)(A)(iii).

WITNESSETH:

NOW THEREFORE, in consideration of the foregoing recitals incorporated herein and made a part hereof and in consideration of the mutual covenants herein, Grantor and Grantee hereby agree as follows:

ARTICLE I: EASEMENT AND COVENANTS

1.1 EASEMENT: Grantor hereby GRANTS and CONVEYS to Grantee a preservation and conservation easement in gross over, and the right **IN PERPETUITY** to restrict the use of, the Protected Property, all as more particularly set forth in this Conservation Easement.

1.2 GRANTOR COVENANTS: Grantor, in furtherance of the Conservation and Preservation Values and Purposes, does hereby establish covenants binding upon Grantor's interest in the Protected Property, which are set forth herein.

1.3 GRANTEE COVENANTS: Grantee, in furtherance of the Conservation and Preservation Values and Purposes, does hereby establish covenants binding upon Grantee's easement interest in the Protected Property, which are set forth herein.

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OF
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ARTICLE II: PURPOSE AND CONDITION OF THE PROTECTED PROPERTY

2.1 PURPOSE: In accordance with the Conservation and Preservation Easements Act and the Farmland Protection Act, the purpose of this Conservation Easement is to preserve and protect the Conservation and Preservation Values and Purposes in perpetuity by restricting the development, alteration, and use of the Protected Property and by providing for the enforcement of those restrictions. The covenants, restrictions, and enforcement rights set forth in this Conservation Easement apply to the Protected Property, regardless of any future division of the Protected Property, and bind all successors in interest of the Protected Property in perpetuity.

2.2 EXISTING RESOURCES:

(a) Existing Historic Resources. The following historic buildings, structures, amenities, and features exist on the Protected Property as of the Effective Date (collectively, the "Existing Historic Resources"):

1. The Protected Property contains portions of the Battle of Shepherdstown Study Area and the Battle of Antietam Study Area, and fully encompasses one archaeological site identified in 2021 and interpreted as Showman's House, a nineteenth-century dwelling that was standing during the Civil War (Site 46JF638).

(b) Existing Natural Resources. The following natural features exist on the Protected Property as of the Effective Date (collectively, the "Existing Natural Resources"; and together with the Existing Historic Resources, the "Existing Resources"):

1. The Protected Property is comprised of two easement areas described on Exhibit "A" hereto as "Conservation Easement Area "A" and "Conservation Easement Area B." Conservation Area A and Conservation Area B are almost entirely in agricultural production with large fields dedicated to hay, row crops, and pasture (cattle). Besides some treed property lines, trees also exist mainly within Conservation Area B and are associated with rock outcrops. Several areas with both Conservation Area A and Conservation Area B have been planted with Spruce (Picea sp.). Except for the spruce, woody plants present are typical of early-stage successional growth typical of the Shenandoah Valley. The soils present are members primarily of the Poplimento, Ryder-Poplimento, Funkstown, and Duffield-Ryder silt loams that are prime and statewide-important soils. One area of very steep slope to the northeast of Conservation Area B consists of soils of the Hagerstown-Opequon Rock Outcrop and are not prime soils.

DEPT OF PZ&E

2.3 CONDITION OF THE PROTECTED PROPERTY:

(a) Maintenance and Preservation of the Protected Property. From and after the Effective Date (hereinafter defined) the conditions of the Protected Property shall be maintained, preserved, and protected in the same or better condition and state of repair as documented in the Baseline Documentation Report dated April 17, 2021 and August 21, 2023 (the "BDR"), except for changes or modifications permitted under this Conservation Easement.

(b) Baseline Documentation Report. The BDR contains, among other items, (i) a written report describing the Protected Property (including the Existing Resources), and (ii) aerial, topographic, and photo-point maps, a site plan, and photographs. Grantor hereby acknowledges that it has received a copy and accepts the findings of the BDR. The BDR is hereby incorporated by reference into this Conservation Easement and may be used in determining compliance with and enforcing the terms of this Conservation Easement.

2.4 DIVISION OF PROTECTED PROPERTY; CONVEYANCE:

(a) As noted in Section 2.3 above, the Protected Property is comprised of two easement areas described on Exhibit "A" hereto as "Conservation Easement Area "A" and "Conservation Easement Area B." Conservation Area A is a part of Tract One as described in the Confirmatory Deed ("Tract One"). Conservation Area B is a part of Tract Two as described in the Confirmatory Deed ("Tract Two"). Grantor covenants and agrees that neither the Protected Property, Tract One, Tract Two, Conservation Area A nor Conservation Area B shall be divided or subdivided, except as indicated hereinbelow in Section 2.4(d) .

(b) Grantor and Grantee acknowledge and agree that a portion of Tract One and Tract Two (as shown on the Conservation Easement Plat) is subject to that certain Deed of Conservation Easement, dated December 13, 2005, recorded in the Clerk's Office in Deed Book 1017, at Page 404 (the "2005 Conservation Easement"), and as amended in Deed of Correction of Deed of Conservation Easement recorded in the Clerk's Office in Deed Book 1308, Page 630.

(c) To ensure the integrity and conservation values granted under the 2005 Conservation Easement and this Conservation Easement, Grantor covenants and agrees that Tract One and Tract Two shall only be conveyed together to a single transferee and, and any such conveyance shall be subject to the terms, conditions, and restrictions of the 2005 Conservation Easement and this Conservation Easement, as applicable.

DEPT OF PZ&E

(d) Notwithstanding the foregoing, those portions of Tract One excluded from this Conservation Easement and shown and described on the Conservation Easement as "Area Excluded From Easement 3.272 Acres" and "Area Excluded From Easement 3.122 Acres" may be subdivided from Tract One to constitute separate subdivided parcels in accordance with applicable law and conveyed to separate transferees.

ARTICLE III: LIMITATIONS ON USES AND CONVEYANCES OF INTERESTS IN REAL PROPERTY

3.1 INDUSTRIAL AND COMMERCIAL ACTIVITY: Industrial or commercial activities other than the following are prohibited:

(a) Preservation Activities. Activities that foster the preservation, maintenance, exhibition, and interpretation of the Protected Property as a historic Civil War battlefield and accommodation of the public amenities.

(b) Existing Agriculture. Agriculture, silviculture, or horticulture at the same scale and intensity in existence at the Effective Date.

(c) Temporary Activities. Temporary or seasonal outdoor activities that do not permanently alter the physical appearance of the Protected Property and that do not diminish the Conservation and Preservation Values and Purposes herein protected, provided that the affected areas are surveyed by a qualified archeologist and all archeological sites and features identified by survey are preserved in place and avoided during permitted activities. All such survey work and activities permitted under this Section shall be reviewed and approved by Grantee in writing prior to implementation.

3.2 PERMITTED NEW IMPROVEMENTS: No new building, structure, amenity, or feature may be built or maintained on the Protected Property after the Effective Date, other than the following (collectively, the "Permitted New Improvements"):

(a) Reconstruction of Historic Buildings or Structures. Reconstruction of historic buildings or structures that are documented through professional historical or archeological investigation to have been located on the Protected Property, shall be permitted provided that such reconstruction shall be consistent with and evaluated according to the Secretary's Standards (as defined in Section 6.3(b) hereof), including without limitation the Standards for Reconstruction.

DEPT OF PZ&E

(b) Amenities. Amenities including without limitation walking trails, footpaths, signs, and markers appropriate for the preservation, maintenance, exhibition, and interpretation of the Protected Property as a battlefield. No building, structure, or amenity shall be constructed, altered, restored, renovated, or extended except in a way that would be in keeping with the Conservation and Preservation Values and Purposes of this Conservation Easement and consistent with the Secretary's Standards, and provided that the prior written approval of Grantee and the WVDACH to such actions shall have been obtained.

(c) Fences, Gates, and Boundary Markers. Existing fences, gates and boundary markers may be repaired and replaced and may be placed, constructed, repaired, expanded, moved, or replaced for purposes of supporting permitted agricultural activities on the Protected Property, marking boundaries, or controlling unauthorized access. Such fences, gates, and boundary markers must be of a type customarily used for agricultural or conservation purposes and shall not impair the Conservation and Preservation Values and Purposes.

(d) Signs. Except for no trespassing signs, for-sale signs, signs identifying this Conservation Easement, all other signs, advertisements and billboards of any nature are prohibited. The permitted signs may not exceed 15 square feet per sign.

(e) Total Area. The location, size, and design of any new building, structure, or amenity are subject to the prior written approval of Grantee and the WVDACH and shall not harm the Conservation and Preservation Values and Purposes. The collective area of any permitted buildings and structures on the Protected Property, excluding roads, shall not exceed one percent (1%) of the total area of the Protected Property and the collective height of any permitted buildings or structures shall not exceed two stories.

3.3 TEMPORARY STRUCTURES:

(a) Temporary Buildings. Temporary buildings and structures not requiring trenching, footers, a pad, or other Ground Disturbing Activities (hereinafter defined) and erected for no more than sixteen (16) consecutive calendar days for use by Grantor or Grantor's designees, not to exceed a maximum of one-hundred sixty (160) days per calendar year may be placed on the Protected Property. Any extension of the sixteen (16) day duration must be reviewed and approved in advance in writing by Grantee.

(b) Temporary Signs. Temporary signs not requiring any Ground Disturbing Activities that may be readily moved and are displayed for no more than sixteen (16) consecutive calendar

DEPT OF PZ&E

days for use by Grantor or Grantor's designees may be placed on the Protected Property. Any extension of the sixteen (16) day duration must be reviewed and approved in advance in writing by Grantee.

3.4 GROUND DISTURBING ACTIVITIES; MINING:

(a) Ground Disturbing Activities. Excluding the permitted agricultural activities set forth in Section 3.1 above, any and all grading, topographic changes, blasting, earth removal, excavation, and any other ground disturbing activities on the Protected Property (the "Ground Disturbing Activities") may only be undertaken with Grantee's and the WVDACH's prior written approval, including, without limitation: (i) rehabilitation of the historic battlefield landscape; (ii) grading for Permitted New Improvements; (iii) forest or timber management activities with the exception of those activities allowed under the forest management provision in Section 5.1 hereof. Any Ground Disturbing Activities approved in writing by Grantee shall be conducted in accordance with all applicable local and state laws and regulations and the Secretary's Standards.

(b) Mining. There shall be no mining, excavating, dredging or removing from the Protected Property of soil loam, peat, gravel, sand, rock or other mineral resource or natural deposit.

(c) Unplanned or Emergency Activities. In the case of an unplanned or emergency ground disturbing activity the Grantor will notify the Grantee and the WVDACH as soon as practicable to consult on restoration or mitigation of any potential damage to the Conservation and Preservation Values and Purposes.

3.5 DEMOLITION: Prior to the demolition of any building or structure on the Protected Property the Grantor will consult with Grantee and the WVDACH to evaluate its eligibility for the National Register of Historic Places (36 C.F.R. 60.4). In addition to the approvals required under section 3.4, Grantor must provide and receive prior written approval of a demolition plan by the Grantee and the WVDACH to demolish the resource.

3.6 UTILITIES: The Grantor shall not place upon the Protected Property any electrical, telephone, water or sewer or other utilities or utility easements without the prior written approval of the Grantee and the WVDACH. If the Grantor receives notification from any utility company, governmental agency or other entity of proposed utilities or utility easements to be placed upon the Protected Property, Grantor shall so notify the Grantee and the WVDACH as soon as practicable to do so.

DEPT OF PZ&E

3.7 PUBLIC ACCESS: At minimum, the Protected Property must be visible from a publicly accessible road. The parties hereby acknowledge that the Protected Property is visible from Engle-Moler Road (CR 31) and Trough Road (CR 31/1), public rights-of-way, and that members of the general public may view the Protected Property from said rights-of-way. At other reasonable times, upon request of Grantee made with reasonable notice to Grantor, persons affiliated with educational organizations, professional associations, and historical societies shall be admitted to study the Protected Property at a date and time convenient to Grantor. In addition, Grantee may take photographs, drawings, or other representations documenting the significant historical, archeological, and cultural character and features of the Protected Property and may use or publish them (or authorize others to do so) to fulfill its charitable or educational purposes. Although the easement in gross granted by this Conservation Easement will benefit the public in the ways recited above, nothing herein shall be construed to convey a right to the public of access to or use of the Protected Property, and Grantor shall retain exclusive right to such access and use, subject only to the provisions herein recited.

3.8 TRASH: The accumulation or dumping of (a) trash, refuse, junk, or other unsightly material, or (b) any toxic or hazardous material or substance as defined by federal or state law is prohibited on the Protected Property. Grantor shall be responsible for the removal of trash, refuse, junk, and other unsightly materials present on the Protected Property as of the Effective Date or at any point thereafter, in compliance with applicable laws and regulations. This restriction shall not prevent generally accepted wildlife management practices or allowed agricultural activities as long as such practices are conducted in accordance with applicable laws and regulations.

3.9 CONVEYANCE OF INTEREST IN REAL PROPERTY: Grantor shall notify Grantee in writing within no less than ninety (90) calendar days prior to any transfer of fee simple title of the Protected Property. All conveyances by Grantor of any interest in the Protected Property less than fee simple, excluding deeds of trust given for the purpose of securing loans, requires the prior, written approval of Grantee. After the Effective Date, this Conservation Easement shall be referenced by deed book and page number, instrument number, or other appropriate reference in any deed conveying an interest in the Protected Property, but failure of Grantor to comply with this requirement will not impair the validity of this Conservation Easement or the conveyance or limit the enforceability of this Conservation Easement in any way.

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ARTICLE IV: ARCHEOLOGY

4.1 PROHIBITED ACTIVITIES: There shall be no removal of artifacts of a historical nature, except with prior written permission of the Grantee and the WVDACH. Archeologically significant deposits, sites, or features on the Protected Property shall not be intentionally disturbed, demolished or excavated or otherwise defaced or altered except by or under the supervision of a professionally qualified archeologist meeting or exceeding the Secretary of the Interior's Professional Qualifications Standards and provided that the scopes of work for such archeological activity have been submitted to and approved by the Grantee and the WVDACH in writing prior to any ground disturbing activities. Relic hunting of any kind on the Protected Property is strictly prohibited.

4.2 MANAGEMENT: The Protected Property will be managed in such a way as to protect the archeological integrity of the site and to protect archeological deposits, sites or features on the Protected Property from looting, vandalism, erosion, mutilation or destruction. No field investigation, archeological exploration, artifact collection, or recovery operation may be conducted on the Protected Property without the prior written approval of the WVDACH and the Grantee.

4.3 SURVEY AND INVESTIGATION: Any field investigation, explorations, or recovery operations conducted pursuant to such approval shall be carried out in consultation with the WVDACH and the Grantee, in accordance with the Secretary's Standards and in a manner to ensure that the appropriate amount of historic, scientific, archeological and educational information be recovered and preserved in addition to the physical recovery of objects. Any such investigation shall be conducted under the immediate supervision of a qualified professional archeologist meeting or exceeding the Secretary's Standards, who has prior written approval from the WVDACH and the Grantee.

4.4 RIGHT TO CONDUCT EXCAVATION: The Grantor shall have the right to conduct archeological research and excavations on the Protected Property; provided, that (i) a scope of work shall be completed prior to any said research and excavations and approved by the Grantee and WVDACH; (ii) during any such research or excavations the Grantor shall allow in attendance on the Protected Property at all times a designee of the Grantee; (iii) any such research or excavation shall be done only during daylight hours; and (iv) the topography and all visible surface features of the Protected Property disturbed by any such research or excavation shall be restored

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to its prior condition and appearance once such research or excavation is complete. Any such investigation shall be conducted under the immediate supervision of a qualified professional archeologist meeting or exceeding *the Secretary of the Interior's Professional Qualification Standards* who is acceptable to the WVDACH, the State Archaeologist, and the Grantee. Any such investigation shall conform to the Secretary's Standards.

4.5 INADVERTENT DISCOVERY: If, during the course of approved ground disturbing activities, there is a discovery of human remains or archeological artifacts, any related activity must immediately cease, Grantor must immediately notify and consult with the WVDACH, the Eastern Shawnee Tribe and Grantee within twenty-four hours as to the proper treatment and curation of the remains or artifacts in accordance with the *Secretary's Standards,* and otherwise comply with all applicable laws and state protocols. In the case of burial sites, human remains, or other objects covered by the Native American Graves Protection and Repatriation Act ("NAGPRA"), 25 U.S.C. § 3001, as amended, the resources shall be covered and protected from deterioration, and any proposed treatment will favor preservation-in-place. If the burial sites, human remains, or other objects covered by NAGPRA are of Native American origin the Grantee and the WVDACH shall consult with appropriate tribes as to their preferred treatment prior to any action.

ARTICLE V: LANDSCAPE

5.1 TREES AND VEGETATION: Trees and vegetation on the Protected Property shall be managed in accordance with established arboreal and horticultural practices and in a manner that will prevent damage to Existing Resources and Permitted New Improvements consistent with the Conservation and Preservation Values and Purposes. The following activities are permitted without the prior, written approval of Grantee: (a) non-commercial, *de minimis* harvesting of trees for trail clearing, firewood, or Grantor's personal use; (b) removal of individual dead, diseased, or dying trees or invasive species; and (c) removal of trees that pose an imminent hazard (i) to human health or safety or (ii) to Existing Resources, Permitted New Improvements, livestock, or other domesticated animals maintained on the Protected Property.

5.2 TOPOGRAPHY: As of the Effective Date there shall be no uses of the Protected Property that would adversely alter the topography of the Protected Property, except where otherwise allowed herein. Any activity that would disturb the topography of the Protected Property, other

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than routine grounds keeping or planting as allowed herein, shall only be allowed with the prior approval of the Grantee and the WVDACH.

ARTICLE VI:

PRESERVATION PLAN, INSPECTION, APPROVALS, AND ENFORCEMENT

6.1 PRESERVATION PLAN: From and after the Effective Date, Grantor shall implement and comply with that certain Preservation Plan dated _____, prepared by the Jefferson County Farmland Protection Board and approved by WVDACH (the "Preservation Plan"). Deviations from the Preservation Plan shall be allowed only with the prior written consent of the WVDACH.

6.2 INSPECTION:

(a) Right of Entry. Grantee and its representatives and agents have the right to enter onto the Protected Property once per calendar year, upon not less than ten (10) days' notice to Grantor, to annually inspect and document the condition of the Protected Property [including the interior of any Existing Historic Resources]. Grantee and its representatives and agents otherwise have the right to enter onto the Protected Property, upon reasonable notice to Grantor, to inspect the Protected Property and to enforce the terms, conditions, and restrictions of this Conservation Easement. Grantor's consent is not a necessary condition to the right of entry by Grantee and its representative and agents; however, the parties agree to cooperate in determining a mutually agreeable time to access the Protected Property. Grantee may take photographs, drawings, or other representations documenting the historical, [*if applicable*] architectural, archeological, and cultural character and features of the Protected Property and may use or publish them.

(b) Emergency Access. No notice to or consent of Grantor is required if, in the reasonable opinion of Grantee, emergency access is necessary to prevent irreversible damage to the Conservation and Preservation Values and Purposes. Following such emergency access, Grantee shall provide Grantor with a written explanation of the reason for such emergency access and the actions taken by Grantee on the Protected Property during such emergency access. Grantee shall limit its actions during such emergency access to those necessary to prevent irreversible damage to the Conservation and Preservation Values and Purposes.

6.3 APPROVALS: Whenever Grantee's approval is necessary under this Conservation

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Easement for a proposed use or activity, Grantor shall submit in writing to Grantee, for Grantee's evaluation: (i) Grantor's specific request identifying a proposed activity or use; (ii) relevant information about the proposed activity or use (including, without limitation, plans, specifications, and designs, as applicable); (iii) a timetable for the proposed activity or use sufficient to permit Grantee to monitor it, and (iv) such other information as Grantee may reasonably request. Grantor shall not make any changes to the proposed activity or use without Grantee's written authorization. Grantee will use reasonable efforts to respond to any written request of Grantor within thirty (30) business days after Grantee's receipt of such request. Nothing herein should be construed, however, to require Grantee to issue a final decision on such request within such thirty (30) business day period, provided that a final decision is issued as timely as is practicable under the circumstances. Such circumstances may include, but are not limited to, the complexity of the activity or use, the adequacy of the information submitted with the written request, the degree to which the activity or use complies with the terms of the Conservation Easement, whether the activity or use is consistent with the Secretary's Standards, the need for archeological survey and investigation, the need for on-site inspections, or the need for consultation. In the event that Grantee does not respond in writing to Grantor's written request within thirty (30) business days of receipt of such request, then Grantee will be deemed to have denied the request, and Grantor may proceed with any appeal for reconsideration of such request in accordance with Grantee's written policies. Grantee is not liable to Grantor or any third party for any damage, injury, liability, or consequence arising out of or resulting from Grantor's failure to obtain Grantee's prior, written approval as required under this Conservation Easement. Nothing herein shall be construed to affect the authority of the Secretary of the Interior under Section 6(f)(3).

6.4 STANDARDS FOR REVIEW:

(a) Sole Determination by Grantee. Any determination made by Grantee in exercising its rights of inspection, approval, or review under this Conservation Easement, except where otherwise noted, is made in Grantee's sole discretion, and Grantee, in making such a determination, may consider, without limitation, whether the activity or use (i) is consistent with this historic character of the Protected Property; (ii) is consistent or compatible with the Conservation and Preservation Values and Purposes; (iii) complies with the terms of this Conservation Easement; or (iv) complies with the Secretary's Standards.

(b) Secretary's Standards. The following standards promulgated by the Secretary of the Interior

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are collectively referred to in this Conservation Easement as the "Secretary's Standards":

(1) *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (48 F.R. 44716 (1983); National Park Service, as amended).

(2) *Secretary of the Interior's Professional Qualifications Standards* (48 F.R. 44716 (Sept. 1983, as amended)).

(3) *Secretary of the Interior's Standards for Rehabilitation* (36 C.F.R. § 67.7, as amended).

(4) *Secretary of the Interior's Standards for the Treatment of Historic Properties* (36 C.F.R. Part 68, as amended).

(5) *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (National Park Service, as amended).

(6) *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* (National Park Service, as amended).

6.5 ENFORCEMENT:

(a) Grantee's Enforcement Rights. Grantee has the right to bring an action at law or in equity to enforce the covenants and restrictions contained in this Conservation Easement, including without limitation, the right to: (i) require restoration of the Protected Property to comply with the terms of this Conservation Easement; (ii) recover any damages arising from non-compliance, including but not limited to disgorgement of any monies received by Grantor connected with such non-compliance; (iii) enjoin non-compliance by *ex parte* temporary or permanent injunction; and (iv) pursue any other appropriate remedy in law or equity.

(b) Reimbursement of Costs. If a court determines that Grantor has failed to comply with this Conservation Easement, Grantor shall reimburse Grantee for all reasonable costs of enforcement, including costs of restoration, court costs, expert-witness costs, and reasonable attorneys' fees, in addition to any other payments ordered by such court.

(c) No Rights in Public. Nothing in this Conservation Easement shall create any right in the public or any third party to maintain any judicial proceeding against Grantor or Grantee or to enforce this Conservation Easement through any means including, but not limited to, judicial action.

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ARTICLE VII: GENERAL PROVISIONS

7.1 GRANTOR'S RESERVED RIGHTS: Grantor reserves the right to use and enjoy the Protected Property to the extent consistent with the Conservation and Preservation Values and Purposes and the terms and conditions of the Conservation Easement.

7.2 GRANTEE'S PROPERTY INTEREST: Grantor agrees that the conveyance of this Conservation Easement gives rise to a property interest, immediately vested in Grantee, with a fair market value that is at least equal to the proportionate value that the perpetual conservation restriction at the time of the conveyance bears to the fair market value of the Protected Property as a whole at that time.

7.3 GRANTEE'S REMEDIES:

(a) Notice of Violation: Corrective Action. If Grantee determines that Grantor is in violation of the terms of this Conservation Easement or that a violation is threatened, Grantee shall give written notice to Grantor of such violation and demand corrective action. The Grantor shall within 60 days cure the violation and, where the violation involves injury to the Protected Property resulting from any use or activity inconsistent with the purpose of this Conservation Easement, to restore the portion of the Protected Property so injured to its prior condition in accordance with a plan approved by Grantee.

(b) Injunctive Relief. The Grantee, its successors or assigns, jointly or severally shall have the right to enforce these restrictions by injunction and other appropriate proceedings, including, but not limited to, the right to require Grantor to restore the Protected Property to the condition existing at the time of this Conservation Easement in order to correct any violation(s) of this Conservation Easement. Grantee's rights under this Section apply equally in the event of either actual or threatened violations of the terms of this Conservation Easement, and Grantor agrees that Grantee shall be entitled to the injunctive relief in addition to such other relief to which Grantee may be entitled, including specific performance of the terms of this Conservation Easement, without the necessity of proving either actual damages or the inadequacy of otherwise available legal remedies.

(c) Costs of Enforcement. Any costs incurred by Grantee in enforcing the terms of this Conservation Easement against Grantor, including without limitation, costs of suit and attorneys' fees, and costs or restoration necessitated by Grantor's violation of the terms of this

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Conservation Easement shall be borne by Grantor. If Grantor prevails in action to enforce the terms of this Conservation Easement, Grantor's reasonable costs of suit, including, without limitation, attorneys' fees, shall be borne by Grantee. Costs incurred by Grantee in enforcing the terms of this Conservation Easement against a third party shall be borne by Grantee.

(d) Forbearance. Forbearance by Grantee to exercise its rights under this Conservation Easement in the event of any breach of any term of this Conservation Easement by Grantor shall not be deemed or construed to be a waiver by Grantee of such term or of any subsequent breach of the same or any other term of this Conservation Easement or of any of Grantee's rights under this Conservation Easement. No delay or omission by Grantee in the exercise of any right or remedy upon any breach by Grantor shall impair such right or remedy or be construed as a waiver.

7.4 ACTS BEYOND THE GRANTOR'S CONTROL: Nothing contained in this Conservation Easement shall be construed to entitle Grantee to bring any action against Grantor for any injury to or change in the Protected Property resulting from causes beyond Grantor's control including, without limitation, fire, flood, storm, and earth movement, or from any prudent action taken by Grantor under emergency conditions to prevent, abate, or mitigate significant injury to the Protected Property resulting from such causes. In the event the terms of this Conservation Easement are violated by acts of trespassers that Grantor could not reasonably have anticipated or prevented, Grantor agrees that Grantee has the right to pursue enforcement action against the responsible parties.

7.5 COSTS, LEGAL REQUIREMENTS AND LIABILITIES: Grantor and its successors and assigns retain all responsibilities and shall bear all costs and liabilities of any kind related to the ownership, operation, upkeep, and maintenance of the Protected Property.

7.6 CONTROL: Nothing in this Conservation Easement shall be construed as giving rise to any right or ability of Grantee to exercise physical or managerial control over the day-to-day operations of the Protected Property, or any responsibility to the Protected Property within the meaning of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended (42 U.S.C. §§ 9602 et seq.).

7.7 TAXES: Grantor shall pay, before delinquency, all taxes, assessments, fees and charges of whatever description levied on or assessed against the Protected Property or residence contained

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thereon by competent authority, including any taxes imposed upon, or incurred as a result of, this Conservation Easement.

7.8 ENVIRONMENTAL WARRANTY: Grantor warrants that it is in compliance with, and will remain in compliance with, all applicable Environmental Laws. Grantor warrants that there are no notices by any governmental authority of any violation or alleged violation of, noncompliance or alleged noncompliance with, or any liability under, any Environmental Law relating to the operations or conditions of the Protected Property. Grantor further warrants that it has no actual knowledge of a release or threatened release of Hazardous Materials, as such substances and wastes are defined by applicable Federal and State law.

Moreover, Grantor hereby agrees to hold harmless and indemnify Grantee against all litigation, claims, demands, penalties and damages, including reasonable attorneys' fees, arising from or connected with the release or threatened release of any Hazardous Materials on, at, beneath or from the Protected Property, or arising from or connected with a violation of any Environmental Laws by Grantor or any other prior owner of the Protected Property. Grantor's indemnification obligation will not be affected by any authorizations provided by Grantee or the United States to Grantor with respect to the Protected Property or any restoration activities carried out by Grantee at the Protected Property; provided, however, that Grantee will be responsible for any Hazardous Materials contributed after this date to the Protected Property by Grantee.

"Environmental Law" or "Environmental Laws" means any and all Federal, State, local or municipal laws, rules, orders, regulations, statutes, ordinances, codes, guidelines, policies, or requirements of any governmental authority regulating or imposing standards of liability or standards of conduct (including common law) concerning air, water, solid waste, hazardous materials, worker and community right-to-know, hazard communication, noise, radioactive material, resource protection, subdivision, inland wetlands and watercourses, health protection, and similar environmental health, safety, building, and land use as may now or at any time hereafter be in effect.

"Hazardous Materials" means any petroleum, petroleum products, fuel oil, waste oils, explosives, reactive materials, ignitable materials, corrosive materials, hazardous chemicals, hazardous wastes, hazardous substances, extremely hazardous substances, toxic substances, toxic chemicals, radioactive materials, infectious materials, and any other element, compound, mixture,

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solution, or substance which may pose a present or potential hazard to human health or the environment.

7.9 **HOLD HARMLESS.** Grantor shall hold harmless, indemnify, and defend Grantee, its members, directors, officers, employees, agents, assigns, and contractors from and against all liabilities, fines, fees, penalties, costs, losses, damages, expenses, causes of action, suits, proceedings, claims, demands, judgments, and sanctions asserted by or on behalf of any person or governmental authority, and other liabilities (whether legal or equitable in nature and including, without limitation, court costs and reasonable attorneys' fees and attorneys' fees on appeal), to which the Grantee may be subject or which the Grantee may incur relating to the Protected Property, which may arise from, but are not limited to, Grantor's negligent acts, omissions, or breach of any representation, warranty, covenant, or agreements contained in this Easement, or violations of any state or local laws, including all Environmental Laws.

7.10 TERMINATION OR EXTINGUISHMENT.

(a) The conveyance of this Conservation Easement gives rise to a property right immediately vested in Grantee with a fair market value equal to the proportionate value that this Deed of Easement at the effective date hereof bears to the value of the Protected Property as a whole at that time. That proportionate value of the Grantee's right shall remain constant. If circumstances arise in the future that render the purpose of this Deed of Easement impossible to accomplish, this Deed of Easement can only be terminated or extinguished, whether in whole or in part, upon (i) written approval by the Secretary of the Interior acting through the ABPP in accordance with the requirements of Section 6(f)(3) of the Land and Water Conservation Fund Act, and following such approval, (ii) by judicial proceedings in a court of competent jurisdiction. The amount of the proceeds to which the Grantor and Grantee shall be entitled, from any sale, exchange, or involuntary conversion of all or any portion of the Protected Property subsequent to or as a result of such termination or extinguishment, shall be determined in accordance with the following formula: The Grantee and the ABPP shall be entitled to a portion of the proceeds at least equal to the value of this Deed of Easement at the time of extinguishment bears to the then value of the Protected Property as a whole. Of that portion, the ABPP shall be entitled to 50 percent and Grantee 50 percent. The ABPP and Grantee shall each use their share of the proceeds for land conservation in a manner consistent with the conservation purposes set forth herein. After satisfaction of any other claim, the

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Grantor is entitled to the balance of the gross sale proceeds or condemnation award.

(b) In making this Deed of Easement, Grantor has considered the possibility that uses prohibited by the terms of this Deed of Easement may become more economically valuable than permitted uses, and that adjacent properties may in the future permit the prohibited uses defined herein. Grantor believes that any such changes in the use of adjacent properties will increase the public benefit provided by this Deed of Easement, and Grantor and Grantee intend that any such changes shall not be deemed to be circumstances justifying the termination or extinguishment of this Deed of Easement.

7.11 EMINENT DOMAIN.

Whenever all or part of the Protected Property is taken in exercise of eminent domain by public, corporate, or other authority so as to abrogate the restrictions imposed by this Deed of Easement, the Grantor and the Grantee shall join in appropriate actions at the time of such taking to recover the full value of the taking and all incidental or direct damages resulting from the taking, which proceeds shall be divided in accordance with the proportionate value of the Grantee's and Grantor's interests pursuant to the provisions of Section 7.10 above. Approval of the Secretary of the Interior, acting through the ABPP, in accordance with the requirements of Section 6(f)(3) of the Land and Water Conservation Fund Act will be required. All expenses incurred by the Grantor and the Grantee in such action shall be paid out of the recovered proceeds.

7.12 CONVERSION OR DIVERSION.

This Conservation Easement is permanent. As provided in Section 7.10 above, extinguishment shall occur only if circumstances arise in the future that render the purpose of this Deed of Easement impossible to accomplish and shall require approval of the Secretary of the Interior, acting through the ABPP and judicial proceedings in a court of competent jurisdiction. In the event of a proposed conversion of the Protected Property to a use other than those specified herein, Grantor shall consult with Grantee. If following that consultation, Grantee determines that conversion and/or extinguishment and purchase is appropriate, the Grantee shall, in accordance with Section 6(f)(3) of the Land and Water Conservation Fund Act (54 U.S.C. § 200305(f)(3)) and the Battlefield Acquisition Grant Program (54 U.S.C. § 308103), propose such conversion to the Secretary of the Interior, acting through the ABPP. Any such proposal shall include the details of the proposed conversion and/or purchase. The proposal shall include a letter from the Grantee setting out its opinions on the advisability of the proposed extinguishment and the adequacy of the

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proposed purchase as mitigation. Approval of such a conversion and/or extinguishment and purchase by the Secretary of the Interior, acting through the ABPP, shall be in accordance with Section 6(f)(3) of the Land and Water Conservation Fund Act and 36 C.F.R. 59.3. The Secretary shall approve such conversion and/or extinguishment and purchase only upon such conditions as the Secretary deems necessary to assure the substitution of other appropriate properties of at least equal fair market value and of reasonably equivalent usefulness and location. In the event of a breach of Section 6(f)(3) of the Land and Water Conservation Fund Act, there shall be no remedy other than immediate compliance with said Section 6(f)(3), nor may grant funds be repaid to nullify the conditions of Section 6(f)(3). Accordingly, Grantor and Grantee acknowledge that notwithstanding any other provision herein that may be construed to the contrary, no part of the Protected Property may be converted or diverted from its conservation/preservation/open-space use except with (i) approval of such conversion by the Secretary of the Interior, acting through the ABPP, in accordance with Section 6(f)(3) of the Land and Water Conservation Fund Act and the Battlefield Acquisition Grant Program (54 U.S.C. § 308103); and, subsequent thereto, by (ii) judicial proceedings in a court of competent jurisdiction, in a manner consistent with the provisions of Section 7.10 above.

7.13 SEVERABILITY: The invalidity or unenforceability of any provision of this Conservation Easement shall not affect the validity or enforceability of any other provision of this Conservation Easement.

7.14 AMENDMENT: Grantee and Grantor may amend this Conservation Easement to enhance the Protected Property's Conservation and Preservation Values and Purposes or to increase the amount of real property subject to this Conservation Easement. No amendment to this Conservation Easement shall:

(a) affect this Conservation Easement's perpetual duration;

(b) conflict with or be contrary to or inconsistent with the purpose of this Conservation Easement as set forth in Section 2.1 of this Conservation Easement;

(c) reduce the protections to the Preservation and Conservation and Preservation Values and Purposes; or

(d) affect the status of Grantee as a certified 501(c)(3) nonprofit.

(e) affect the status of this Conservation Easement as a "qualified conservation contribution" or any other stipulations required by Internal Revenue Code § 170(h).

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No amendment shall be effective unless documented in a notarized writing executed by Grantee and Grantor and recorded in the Clerk's Office of the County Commission of Jefferson County, West Virginia. Grantee shall notify the ABPP in writing of any proposed amendment at least thirty (30) business days prior to the recordation of any such amendment.

7.15 DURATION; SUCCESSORS IN INTEREST: This Conservation Easement is perpetual. It is an easement in gross that runs with the land as an incorporeal interest in the Protected Property. The covenants, terms, conditions, and restrictions contained in this Conservation Easement are binding upon, and inure to the benefit of, the parties hereto and their successors and assigns, and shall continue as a servitude running in perpetuity with the Protected Property. The rights and obligations contained in this Conservation Easement of an owner of the Protected Property, or any portion thereof, terminate upon proper transfer of such owner's interest in the Protected Property, except that liability for acts or omissions occurring prior to transfer shall survive transfer.

7.16 SUBSEQUENT TRANSFERS: Grantor agrees to incorporate the terms of this Conservation Easement in any deed or other legal instrument by which they divest themselves of any interest in all or a portion of the Protected Property, including, without limitation, a leasehold interest.

7.17 GRANTOR'S REPRESENTATIONS AND WARRANTIES: Grantor hereby represents, covenants, and warrants that: (a) Grantor has good, fee simple title to the Protected Property; (b) the Protected Property is free and clear of all encumbrances, other than restrictions, covenants, conditions, and utility and access easements recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, prior to the Effective Date including, but not limited to, any mortgages, liens, leases, or option contracts not subordinated to this Conservation Easement; (c) Grantor has all requisite power and authority to enter into this Conservation Easement and to grant and convey this Conservation Easement; (d) no consents of any lender or any third party are required for Grantor to enter into this Conservation Easement that have not already been obtained and made known to Grantee; (e) Grantor is and shall be duly organized and legally existing under the laws of the state of its formation; and (f) each person and/or entity signing on behalf of Grantor is authorized to do so.

7.18 ASSIGNMENT: Grantee may assign this Conservation Easement after notification of and approval by the ABPP that the successor organization fits its easement holder qualifications and consultation with Grantor and the WVDACH if:

(a) All restrictions and covenants and Conservation and Preservation Values and Purposes set

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forth in this Conservation Easement are to be continued in perpetuity.

(b) The assignment is approved in accordance with the requirements of Section 6(f)(3) and the American Battlefield Protection Program Authorization of 2009, as amended.

(c) The assignee is a "qualified organization" and "eligible donee" under Internal Revenue Code § 170(h), as amended.

Such assignment shall be in writing with all signatures notarized and shall be recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia.

7.19 NO MERGER: Grantor and Grantee agree that in the event that Grantee, or any agency or entity of the State or Federal Government, acquires a fee interest in the Protected Property, this Conservation Easement shall not merge into the fee interest, but shall survive the deed and continue to encumber the Protected Property.

7.20 RECODIFICATION AND AMENDMENT OF STATUTES AND REGULATIONS: In the event that any of the statutes or regulations cited in this Conservation Easement are re-codified or amended, this Conservation Easement will be interpreted and enforced according to the re-codified or amended statutes and regulations most closely corresponding to those cited herein and carrying out the purposes recited herein.

7.21 CONSTRUCTION: Pursuant to the public policy of the State of West Virginia favoring land conservation, any general rule of construction to the contrary notwithstanding (including the common-law rule that covenants restricting the free use of land are disfavored and must be strictly construed), it is the intent of Grantor and Grantee that this Conservation Easement and all language contained herein shall be liberally construed in favor of the grant to effect the purposes of this Conservation Easement and the policies and purposes of Grantee. If any provision of this Conservation Easement is found to be ambiguous, an interpretation that is consistent with the purposes of this Conservation Easement (to protect the Conservation and Preservation Values and Purposes and prevent the exercise of reserved rights in a way that would impair such values) and that would render the provision valid will be favored over any interpretation that would render it invalid. Notwithstanding the foregoing, lawful acts or uses consistent with the purposes of and not expressly prohibited by this Conservation Easement are permitted on the Protected Property.

7.22 NO LACHES, WAIVER, ESTOPPEL: In recognition of the public benefit provided by this perpetual Easement and the Conservation and Preservation Values and Purposes protected herein, the Grantor hereby agrees to waive any defenses of laches, waiver, and estoppel with

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respect to any Grantee's enforcement of the terms of this Conservation Easement.

7.23 EXTINGUISHMENT OF DEVELOPMENT RIGHTS: Any and all development rights, subdivision rights and other rights affecting the future development (collectively, the "Development Rights") of the Protected Property are hereby extinguished. Grantor unconditionally and irrevocably relinquishes the right to transfer the Development Rights to any other real property or to use them for purposes of calculating lot yield, density allowances, increases or decreases, and/or development potential of the Protected Property or any other property. Grantor warrants and covenants that neither the Protected Property, nor any portion of it, has been or will be dedicated as open-space within, or as part of, a residential subdivision or any other type of real estate development plan or dedicated for the purpose of fulfilling density requirements to obtain approvals for zoning, subdivision, site plan, or building permits. No Development Rights that have been encumbered or extinguished by this Conservation Easement will be transferred to any other real property pursuant to a transfer of Development Rights or purchase of Development Rights program, cluster development plan, planned unit development, or other type of land use program or regulation intended to restrict the future development of the Protected Property.

7.24 MINERAL INTERESTS: The Grantor warrants that no person has retained a qualified mineral interest in the Protected Property of a nature that would disqualify this Conservation Easement for purposes of 26 C.F.R. § 1.170A-14(g)(4). From and after the Effective Date, the grant of such an interest is prohibited, and Grantee has the right to prohibit the exercise of such a right or interest if granted in violation of this provision.

7.25 RECORDING: This Conservation Easement shall be recorded in the Office of the Clerk of the County Commission of Jefferson County West Virginia, and Grantee may re-record it at any time to preserve its rights under this Conservation Easement.

7.26 COUNTERPARTS: This Conservation Easement may be executed in one or more counterparts, each of which, when executed and delivered shall be an original, but all of which shall constitute one and the same Conservation Easement. Execution of this Conservation Easement at different times and in different places by the parties hereto shall not affect the validity of this Conservation Easement.

7.27 EFFECTIVE DATE: The date upon which this Conservation Easement is recorded in the land records of Jefferson County, West Virginia shall be the effective date ("Effective Date") hereof.

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7.28 NOTICE: All notices and communications under this Conservation Easement shall be directed as follows:

Grantor:
Aspen Pool Farm LLC
1378 Trough Road
Shepherdstown WV 25443

Grantee:
Jefferson County Farmland Protection Board
P.O. Box 731
Charles Town, WV 25414

WVDACH:
West Virginia Department of Arts, Culture and History
1900 Kanawha Boulevard E.
Charleston, WV 25305-0300

ABPP:
National Park Service
American Battlefield Protection Program
1849 C Street, NW, Room 2287
Washington, D.C. 20240

7.29 ENTIRE AGREEMENT: This instrument, the exhibits attached hereto, and the documents incorporated herein by reference set forth the entire agreement of the parties hereto with respect to this Conservation Easement and supersede all prior discussions, negotiations, understandings, documents, drafts, and agreements relating to the conveyance of this Conservation Easement.

7.30 RECITALS AND EXHIBITS: All recitals set forth above and exhibits attached hereto are hereby incorporated into and made a part of this Conservation Easement.

7.31 HEADINGS: The headings and titles to the articles, sections, and subsections of this Conservation Easement are for convenience only and have no effect upon the construction or interpretation of any part of this Conservation Easement.

ARTICLE VIII: GLOSSARY

"Conservation and Preservation Values and Purposes" means the protection in perpetuity of the historic battlefield and battlefield landscape including the historic, archeological, open-space, and scenic purposes, and the historic, archeological, and natural resources, both identified and yet

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unidentified, located on the Protected Property. These protected purposes, values, and resources are listed and expressed in the Recitals and Exhibits A and B, among others.

"Development Rights" means any and all development rights, subdivision rights, and other rights affecting the future development of the Protected Property.

"Conservation Easement" means this Conservation Easement and declaration of covenants, the stipulations herein, and the property interest held by the Grantee as of the Effective date.

"Effective Date" means the date on which this Deed of this Conservation Easement is recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia and thereby goes into full effect.

"Existing Historic Resources" means the historic buildings, structures, amenities and features existing on the Protected Property as of the Effective Date as listed in section 2.2(a).

"Existing Non-Historic Resources" means the non-historic buildings, structures, amenities, and features existing on the Protected Property as of the Effective Date of this Conservation Easement.

"Existing Natural Resources" means the natural resources existing on the Protected Property as of the Effective Date as listed in Section 2.2(b) of this Conservation Easement.

"Grantee" means the organization holding the easement interest that is responsible for (1) the monitoring and enforcement of the easement terms and (2) protecting the Conservation and Preservation Values and Purposes; and all successors and/or assigns bound to the terms of this Conservation Easement in perpetuity.

"Grantor" means the owner of the Protected Property as of the Effective Date and all successors and/or assigns bound to the terms of this Conservation Easement in perpetuity.

"Preservation in place" means the treatment of archeological resources and sites disfavoring the spoliation or removal of the resources or sites, instead favoring that the resources or site remain in the same physical context as their discovery and protecting the integrity of the site to the extent feasible.

"Protected Property" means the real property encumbered by this Conservation Easement and the features and resources thereon, more accurately described in Exhibit A and B, among other provisions.

"Secretary's Standards" means, collectively, the Secretary of the Interior's Standards listed in Section 6.3.

Witness the following signatures and seal:

JEFFERSON COUNTY DEPT. OF ENGINEERING, PLANNING AND ZONING
OFFICIAL SEAL

File # 23-5E

Approved per Sect 20.107 of Jefferson Co. SubRegs
Jennifer Brown
01.05.24

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[COUNTERPART SIGNATURE PAGES TO FOLLOW]

GRANTOR: ASPEN POOL FARM, LLC

By _____

Name: Charles F. Printz, Jr.

Managing Member

_____

Date

GRANTEE:

Jefferson County Farmland Protection Board

_____

Signature

_____

Date

STATE OF WEST VIRGINIA

COUNTY OF JEFFERSON, to-wit:

The foregoing instrument was acknowledged before me this _____ day of _____, 2024, by Charles F. Printz, Jr., Managing Member on behalf of Aspen Pool Farm, LLC.

My commission expires: _____

_____

Notary Public

STATE OF WEST VIRGINIA
COUNTY OF JEFFERSON, to-wit:

The foregoing instrument was acknowledged before me this _____ day of

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_____ , 20____, by _____, President on behalf of the Jefferson County Farmland Protection Board.

My commission expires: _____

_____
Notary Public

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Exhibit A

Legal Description

Keller Engineers, Inc
420 Allegheny Street
Hollidaysburg, PA 16648
Phone: (814) 696-7430
Fax: (814) 696-0150
keller-engineers.com

FARMLAND CONSERVATION EASEMENT
DESIRED BY
JEFFERSON COUNTY FARMLAND PROTECTION BOARD
FROM
ASPEN POOL FARM LLC
PROJECT NUMBER 3964-7
DECEMBER, 2021

All those certain pieces or parcels of land lying and being situate in the Shepherdstown District, being part of Tax Map 12, Parcel 4, and part of Tax Map 12, Parcel 8.3, within Jefferson County, West Virginia, and more particularly bounded and described as follows:

Conservation Easement Area "A"
Beginning at an iron pin at the common corner with lands now or formerly of Charles F. Jr. & Donna F. Printz and lands now or formerly of George R. Welsh Jr.; thence along the Welsh land NORTH 69 DEGREES 22 MINUTES 04 SECONDS WEST a distance of 681.56 FEET to an existing post; thence along the same SOUTH 89 DEGREES 25 MINUTES 18 SECONDS WEST a distance of 1697.03 FEET to an iron pin; thence through lands of which this is a part NORTH 02 DEGREES 59 MINUTES 14 SECONDS EAST a distance of 757.40 FEET to an iron pin on the common line of lands now or formerly of Gregory D. & Laurie Moss of the Wright's Field Plan of Lots; thence along the Wright's Field Plan of Lots land NORTH 84 DEGREES 02 MINUTES 32 SECONDS EAST a distance of 1223.10 FEET to an existing iron pin and stone; thence along the same NORTH 13 DEGREES 20 MINUTES 36 SECONDS EAST a distance of 1822.01 FEET to an existing iron pin; thence SOUTH 75 DEGREES 13 MINUTES 42 SECONDS EAST a distance of 30.76 FEET to a point on the southerly right-of-way line of West Virginia Secondary Route 31 (Engle Molers Road); thence along the southerly right-of-way line and with a curve turning to the left with a radius of 195.00 FEET, an arc length of 156.25 FEET, a chord bearing of SOUTH 57 DEGREES 53 MINUTES 56 SECONDS EAST, and a chord length of 152.10 FEET to a point; thence along the same SOUTH 80 DEGREES 51 MINUTES 15 SECONDS EAST a distance of 166.86 FEET to a point; thence along the same and with a curve turning to the right with a radius of 245.21 FEET, an arc length of 132.48 FEET, a chord bearing of SOUTH 65 DEGREES 22 MINUTES 37 SECONDS EAST, and a chord length of 130.87 FEET to a point; thence along the same SOUTH 49 DEGREES 54 MINUTES 00 SECONDS EAST a distance of 493.30 FEET to a point; thence along the same SOUTH 49 DEGREES 38 MINUTES 41 SECONDS EAST a distance of 1242.95 FEET to a mag nail at the intersection with the westerly right-of-way line of West Virginia Secondary Route 31/1 (Trough Road); thence along the westerly right-of-way line SOUTH 39 DEGREES 48 MINUTES 24 SECONDS WEST a distance of 434.46 FEET to a point; thence along the same and with a curve turning to the left with a radius of 326.50 FEET, an arc length of 174.87 FEET, a chord bearing of SOUTH 24 DEGREES 27 MINUTES 49 SECONDS WEST, and a chord length of 172.78 FEET to a

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point; thence along the same SOUTH 09 DEGREES 07 MINUTES 13 SECONDS WEST a distance of 222.36 FEET to a point; thence along the same SOUTH 05 DEGREES 13 MINUTES 55 SECONDS WEST a distance of 473.94 FEET to an iron pin; thence through lands of which this is a part and along lands now or formerly of Charles F. Jr. & Donna F. Printz NORTH 85 DEGREES 23 MINUTES 46 SECONDS WEST a distance of 645.68 FEET to an iron pin; thence continuing along the Printz land SOUTH 04 DEGREES 36 MINUTES 14 SECONDS WEST a distance of 457.63 FEET to the point and place of beginning and having an area of 112.762 Acres.

Conservation Easement Area "B"
Beginning at an existing iron pin on the easterly right-of-way line of West Virginia Secondary Route 31/1 (Trough Road), said iron pin being located SOUTH 55 DEGREES 08 MINUTES 10 SECONDS EAST a distance of 772.50 FEET from the iron pin point of beginning from the above described Conservation Easement Area "A"; thence from the Area "B" point of beginning and running through lands of which this is a part SOUTH 83 DEGREES 56 MINUTES 53 SECONDS EAST a distance of 1587.87 FEET to an iron pin on the westerly line of a 50 FOOT wide private road known as Peaceful Breeze Lane; thence along the westerly line of Peaceful Breeze Lane SOUTH 14 DEGREES 10 MINUTES 09 SECONDS WEST a distance of 849.45 FEET to an existing iron pin at the common corner of lands now or formerly of Scott & Christine King; thence along the King land and along lands now or formerly of Randall R. Conrad et al SOUTH 69 DEGREES 29 MINUTES 29 SECONDS WEST a distance of 536.20 FEET to an existing stone at the common corner with lands now or formerly of George R. Welsh Jr. Revocable Trust; thence along the Welsh Revocable Trust land NORTH 88 DEGREES 18 MINUTES 52 SECONDS WEST a distance of 307.62 FEET to an existing iron pin and stone; thence along the same NORTH 88 DEGREES 32 MINUTES 12 SECONDS WEST a distance of 662.22 FEET to an existing iron pin; thence along the easterly right-of-way line of West Virginia Secondary Route 31/1 NORTH 04 DEGREES 59 MINUTES 15 SECONDS EAST a distance of 1157.30 FEET to the point and place of beginning and having an area of 36.846 Acres.

Being a portion of the parcel of land title to which became vested in Aspen Pool Farm LLC by deed as recorded in Jefferson County Deed Book Volume 1178 at page 468, Deed Parcels One and Two. The total area of the Farmland Conservation Easement is 149.608 Acres and is more fully shown on the survey plat prepared by Keller Engineers, Inc. entitled "Conservation Easement" showing the lands of Aspen Pool Farm LLC, dated December 7, 2021, which plat is recorded in the Clerk's Office of the County Commission of Jefferson County, West Virginia in Plat Book _____, Slide _____..

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Exhibit B

Conservation and Preservation Purposes

B-1 [*Include description of Protected Property and historic and archeological resources in sequential recitals. Should reference all historic buildings, structures, features and amenities including landscape features and archeological sites, deposits or features in individual recitals. Should also reference any evaluation of eligibility for the National Register of Historic Places for any historic properties on the Protected Property or the battlefield itself.*]

B-2 The Protected Property, as of the Effective Date, contains approximately 150 acres of land that lie within the study area of the Shepherdstown Battlefield as determined by the CWSAC, which has given the Shepherdstown Battlefield a Preservation Priority II Class C Rating.

B-3 The CWSAC defines Priority II battlefields as those that offer opportunities for comprehensive preservation, and reserves Class C as "having observable influence on the outcome of a campaign," in this case Gen. Robert. E. Lee's September 4 – 20, 1862 Maryland campaign. The Battle of Shepherdstown, which took place in the aftermath of Antietam on September 20, 1862 saw Maj. Gen. Fitz John Porter's V Corps attack the Confederate rearguard who were under the command of Brig. Gen. William Pendleton. General A.P. Hill's Confederate division counterattacked the Union forces, pushing them back across the Potomac River. The Battle of Shepherdstown, then, discouraged a Union pursuit of Robert E. Lee's army back into Virginia and ended Lee's Maryland Campaign.

Following the Battle of Antietam, a Union detachment crossed the Potomac from Maryland to Virginia at "Boteler's Ford", located approximately 1.5 miles north of Aspen Pool Farm. After attacking a Confederate rearguard, the detachment, under the command of Fitz John Porter, established a bridgehead. Confederate General A.P. Hill positioned himself to counterattack and drive the Union troops back across the river. Hill's division was bivouacked on or near Aspen Pool Farm prior to the Battle of Shepherdstown. On the morning of September 20, 1862, Hill formed lines of battle on Aspen Pool Farm near the intersection of Trough Road and Engle Molers Road to meet the Union troops that were advancing south along Trough Road from the Potomac River. Federal forces, supported by artillery fire from the Maryland side of the Potomac, and Hill's troops both advanced to meet each other. Jubal Early, with his own brigade, and those of Trimble and

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Hays, took position in a wood on the right and left of the road in support of Hill. Union troops withdrew back across the river under cover of counterfire. As such, Aspen Pool Farm is a significant property for the Battle of Shepherdstown, as it was at this location that Confederate troops prepared for battle, and from which they launched the attack which drove the Federal troops back across the Potomac River.

B-4 A portion of the Protected Property also lies within the Study Area of the Antietam Battlefield, as determined by the CWSAC which has given the Antietam Battlefield a Preservation Priority II Class A Rating.

The CWSAC defines Priority II battlefields as those that offer opportunities for comprehensive preservation, and reserves Class A as "having a decisive influence on a campaign and a direct impact on the course of the war," in this case Gen. Robert. E. Lee's September 4 – 20, 1862 Maryland campaign.

B-5 The Battle of Antietam took place north and east of Sharpsburg, Maryland on September 17, 1862, known as the bloodiest day in American history. On September 16, 1862 Maj. Gen. George B. McClellan confronted Lee's Army of Northern Virginia at Sharpsburg, Maryland. At dawn on September 17, Hooker's corps, under command of Major General George B. McClellan, attacked Robert E. Lee's left flank north of Sharpsburg. Attacks and counterattacks swept across the Miller's cornfield and around the Dunker Church. Union assaults against the Sunken Road pierced the Confederate center and rolled up the Confederate right flank. Late in the day, Burnside's corps crossed the stone bridge over Antietam Creek and rolled up the Confederate right. At a crucial moment, A.P. Hill's division arrived from Harper's Ferry and counterattacked, freeing up the Confederate right and allowing the lines to reform. The entire Confederate army advanced while McClellan held back approximately a quarter of the Union army, and by the evening the armies had fought to a standstill. At night, both armies consolidated their lines, and skirmishes continued into the following morning. McClellan did not renew the assault. After dark, Lee ordered the battered Army of Northern Virginia to withdraw across the Potomac into the Shenandoah Valley. Total casualties numbered above 22,000. The results of the battle were inconclusive but served as a Union strategic victory.

B-6 The Protected Property contains a known archeological site which contains a site associated with the historic house of Adam Showman. The site consists of a surface scatter of nineteenth-century artifacts along the western perimeter of the Protected Property, occupying an

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area of approximately 300 feet by 100 feet. Up until 1852, the Aspen Pool property was actually two properties which were divided by Trough Road. The western parcel was owned by Adam Showman, while the eastern parcel was owned by John Unseld. The 1827 tax assessment records for Jefferson County indicate that a building was also situated on the Protected Property of Adam Showman's with a value listed at $300 with the notation "an unfinished but occupied house by [?] Showman valued at $300." Adam, who was a blacksmith, and his wife, Mary, owned one enslaved individual in 1830; by 1860, Adam owned nine. In 1852, Adam purchased the eastern parcel now containing the Unseld house, and eventually moved into it. The Showman house is depicted in historic maps along the western edge of the Protected Property. The house stood between the western edge of the Protected Property and the historic intermittent stream which at one time flowed south to north, in the location of the surface scatter that was identified. It appears in the 1852 Brown *Map of Jefferson County*, Macomb's 1861 *Jefferson County, Virginia*, and Brown's 1862 *Map of Jefferson County, Virginia*, but not in the Hoffman's 1864 map of the area or any maps post-dating it. The fact that the building was standing during both the Battle of Antietam and the Battle of Shepherdstown presents the possibility that the Protected Property may have been utilized in some form or another prior to or after these battles. Farms and orchards could provide food to hungry troops among other supplies. The possibility that the house may have been abandoned prior to the Civil War would have made it even more attractive to troops on the march to or in flight from one of the two bloody engagements that took place in the vicinity.

B-7 The Protected Property is further significant for its archeological potential as a Civil War battlefield. Although the Protected Property has not been subjected to professional archeological survey, in the opinion of the West Virginia DACH, the Protected Property has the potential to contain archeological sites, deposits and features associated with the Civil War, specifically the Battles of Shepherdstown and Antietam, based on the concentration of troop movement and the engagement of the opposing armies to the north of the Protected Property.

B-8 The previously identified archeological site(s) on the Protected Property also serve as indication that the Protected Property as a whole is likely to contain additional sites, deposits or features associated with its historic use and occupation.

B-9 As shown by predictive models and an archaeological assessment, the Protected Property contains moderate potential for historic (19th-century and specifically Civil War period) sites.

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B-10 The Protected Property contains scattered patches of planted Spruce trees (Picea Sp.) and woody plants typical of early-stage successional growth found in the Shenandoah Valley along some fence lines and in rock outcrops. In total, treed patches amount to approximately 3.25 acres as of the Effective Date.

B-11 The Protected Property contains approximately 145 acres of fields and meadows used for crop production including hay, grain crops, or grazing livestock as of the Effective Date.

B-12 The Protected Property contains a single, small (ca. 5,000 ft^2) manmade pond which exists along the western property line as of the Effective Date.

B-13 The Protected Property is visible from Engle-Moler Road (CR 31) and Trough Road (CR 31/1), which are public transportation corridors accessible to the public. The Protected Property represents publicly significant open space in this corridor, and the Protected Property's historic and open-space resources contribute to the historic, cultural, and open-space features that define the existing rural character and landscape quality along this roadway.

B-14 The Protected Property lies adjacent to or within one mile of nearby lands protected by historic preservation and conservation easements held by Grantee in Jefferson County and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia including:

Aspen Pool, Inc., 59.9 acres, 1378 Trough Road, Shepherdstown, WV Deed Book 1017, Page 404
Borden Farm, Inc., 278.34 acres, 565 Vance Road, Shepherdstown, WV Deed Book 141, Page 682
Carter, 117 acres, 163 Paint Horse Road, Shepherdstown, WV Deed Book 1211, Page 708
Davidson, 121 acres, 337 Vidon Farm Lane, Shepherdstown, WV Deed Book 1055, Page 339
Lewis, 40 acres, 161 McMurran Farm Lane, Shepherdstown, WV Deed Book 1016, Page 1
Moore, 82.8 acres,408 Spring Farm Lane, Shepherdstown, WV Deed Book 1017, Page 219
Quinn, 102 acres, 677 Quinn Lea Road, Shepherdstown, WV Deed Book 1032, Page 36
Renaud, 72.8 acres, 405 Spring Creek Lane, Shepherdstown, WV Deed Book 1025, Page 406
Stine, 235.8 aces, 7633 Flowing Springs Road, Shepherdstown, WV Deed Book 1027, Page 238
Willis, 20 acres, 311 Peaceful Breeze Lane, Shepherdstown, WV Deed Book 1034, page 558

B-15 This Conservation Easement is in furtherance of and pursuant to clearly delineated governmental policies and documents set forth below:

a. Land conservation policies and documents of the United States of America as set forth in:

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1. "*The Report on the Nation's Civil War Battlefields*" (1993, revised 2009) issued by the CWASC, authorized under 54 U.S.C. § 100507 (as amended).
2. The "American Battlefield Protection Program Act of 1996," authorized under 16 U.S.C. § 469k, as amended by the "The Civil War Battlefield Protection Act of 2002," authorized under 16 U.S.C. § 469k-1, as amended.
3. The "American Battlefield Protection Program Authorization of 2009," 54 U.S.C. § 308103 (as amended).
4. The Land and Water Conservation Fund Act, 54 U.S.C. §§ 200301 – 200310 (as amended).
5. The Natural Resources Conservation Service Soil Survey, which identifies areas of Prime Farmland, as classified and defined by the United States Department of Agriculture.

b. Land conservation policies and documents of West Virginia as set forth in: West Virginia Conservation and Preservation Easements Act, West Virginia Code §§ 20-12-1 et seq., as amended, and the West Virginia Voluntary Farmland Protection Act, West Virginia Code §§ 8A-12-1 et seq., as amended.

c. Land use policies of the County of Jefferson, West Virginia as delineated in:

1. the Jefferson County West Virginia, Envision Jefferson 2035 Comprehensive Plan, adopted by the County Commission on January 14, 2015. to which plan the restrictions set forth in this deed conform as follows:
2. Envision Jefferson 2035 Comprehensive Plan Vision Statement: "We envision Jefferson County in the year 2035 as a place of natural beauty and historic value. It is an active, vibrant place to live, work, and play. The county has economic growth potential as a result of its location in the Washington, D.C. and Baltimore, MD Metropolitan Areas, as well as its skilled workforce. There is a well-diversified economic base of manufacturing, services, government, tourism, and agriculture that is not reliant on any single business type. The County's rich historic, cultural and natural resources are preserved and are an integral part of its economy. Excellent infrastructure, public facilities and services are available to all residents and employers. It is a community with well-defined rural, village, and urban areas. Residents enjoy a countywide system of well-programmed parks, as well as recreational opportunities serving all ages. Safe, congestion free, and convenient transportation access is available throughout the County. Page 191. Goal #2:

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Maintain and Enhance the Agricultural and Artisan Economy, Rural Land Uses, Rural Neighborhoods, and Rural Character of the Areas of the County Outside the Preferred Growth Areas

3. Page 193. Goal #8: Retain, Strengthen, and Enable the Growth of Jefferson County's Rural, Cultural and Artisan Economies, Objective #3: Enhance farmland protection activities within Jefferson County.
4. Page 195. Goal #9: Preserve, Promote and Enhance Components of Jefferson County's Natural, Cultural, Built, Historic, Recreational, and Rural Environments which Encourage Tourism. Objective #2: Encourage the utilization of existing historic and agricultural areas for a variety of uses in ways that respect their historical function or setting. Objective #3: Protect and enhance the viability of natural, cultural, and built environments within Jefferson County while allowing recreational and tourism opportunities.
5. Page 199. Goal #14: Preserve and Protect Significant Cultural Landscapes that encompass Historic Properties, Buildings, Battlefields and Sites from the Impacts of Incompatible Development Objective #1: In conjunction with efforts from the Jefferson County Historic Landmarks Commission (JCHLC) and other applicable agencies, continue to identify key sites and structures built more than 50 years ago that should be prioritized for protection. Objective #2: Create and implement a series of preservation standards to help protect the integrity of historic structures, properties, and districts within Jefferson County. Objective #3: Work with local, state, and federal elected officials and agencies to identify additional tools and incentives to aid in the preservation of historic structures, properties, and districts in Jefferson County. Objective #4: Work with property owners and applicable agencies to balance private property rights with the need to protect historically significant properties, structures, sites, or archeological resources. Objective #5: With assistance from applicable agencies, provide technical resources for property owners and local businesses on the protection of historic resources within Jefferson County. Objective #6: Encourage the adaptive reuse of existing historic buildings within Jefferson County for a variety of purposes. Objective #7: Identify areas or corridors for consideration for inclusion in a historic, cultural, or heritage area of local, regional, or national significance.

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Conservation Easement WV Code § 8-26A-1 **MUNICIPAL AND COUNTY HISTORIC LANDMARKS COMMISSIONS** The Jefferson County Historic Landmarks Commission has served the local community since 1974. JCHLC's mission is to preserve historic sites, structures, and rural landscapes in the unincorporated areas of Jefferson County and to educate the public about the county's heritage.

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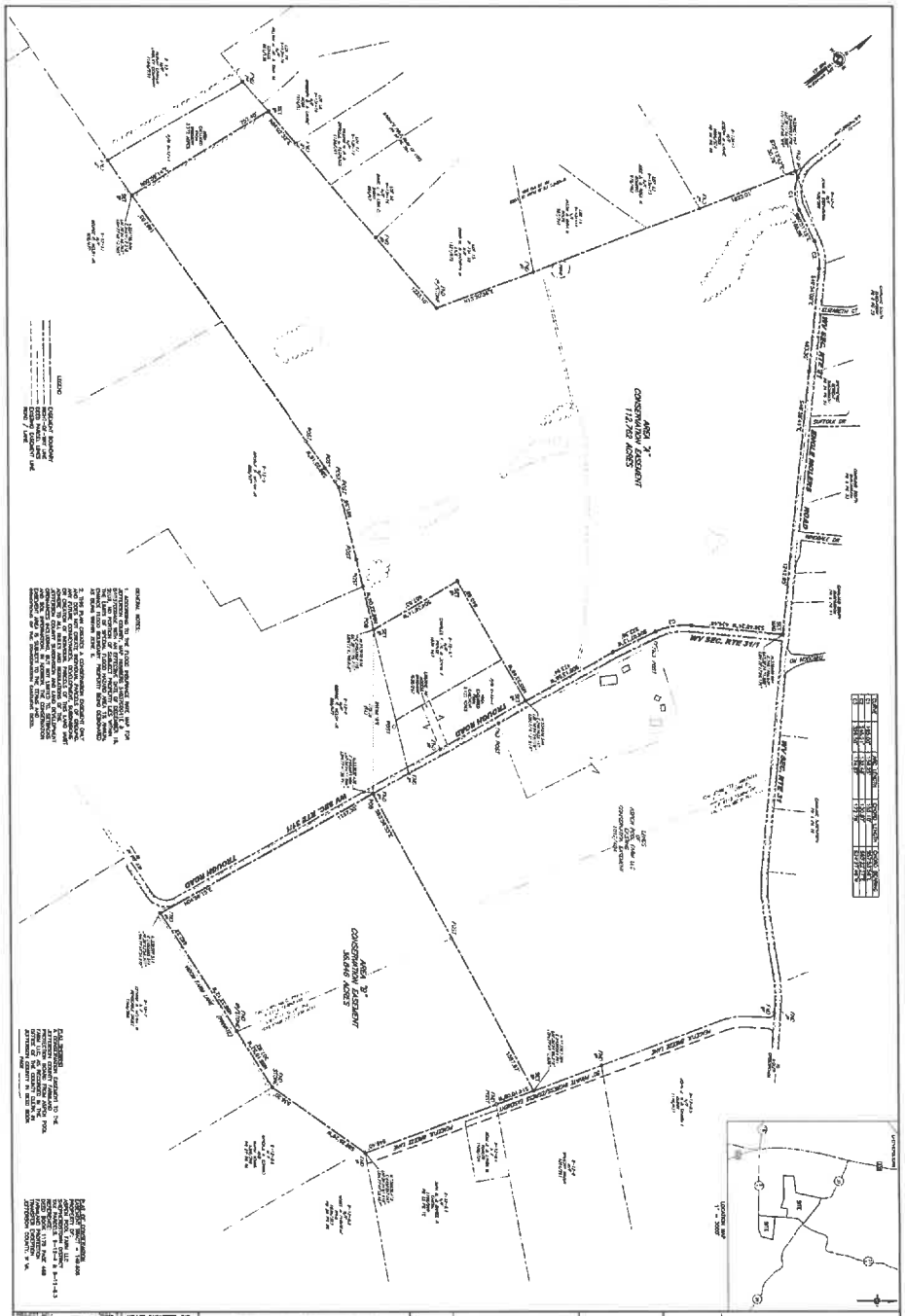

CONSERVATION EASEMENT
112.710 ACRES
CONSERVATION EASEMENT
30.940 ACRES
TROUGH ROAD
WV SEC. RTE 31/1
WV SEC. RTE 31/1
WV SEC. RTE 31/1

JEFFERSON COUNTY COMMISSION
AGENDA REQUEST FORM

Name: Elizabeth Wheeler

Department or Organization: Farmland Protection Board

Commission Meeting Date: January 18, 2024

Special Meeting Date (if necessary):

Subject (*wording to be placed on agenda*):

Approval of purchase of one Agricultural Conservation Easement

Please provide a description of your request or presntation, including any background information:

The attached Deed of Easement for Property 2023-01 has been approved by the Jefferson County Farmland Protection Board and reviewed and approved by the Planning and Zoning Office and the Office of the Prosecuting Attorney. The easement is ready to close. Funding is provided for the easement through the Jefferson County Farmland Protection Board. The 2023-01 easement is for 153 acres with a cost to the board of $750,000. The landowner is donating $489,000 of easement value.

Type of Request: (Funding/Hiring): N/A

Funding/Salary/Hourly Amount:

Name of Hire (if Applicable):

Grade/Step/Hours (PT/FT):

Start Date (beginning of pay period):

Post Probationary Increase (If applicable):

Any Additional Conditions of Employment or Funding Comments:

Recommended Motion (*type out wording of the motion you would like the Commission to approve*):

That the Jefferson County Commission approve the purchase by the Jefferson County Farmland Protection Board for the Jefferson County Farmland Protection Program one conservation easement on the property in Jefferson County owned by Mrs. Gloria Willis. (Property 2023-01).

Attach supporting documents for request, or request may be denied.
If not attached, explain:

Is equipment needed? ☐ Projector ☐ Internet/Wi Fi: ☐ Conference/Video ☑ No

Contact Information: Elizabeth Wheeler Phone Number: 304-728-3380

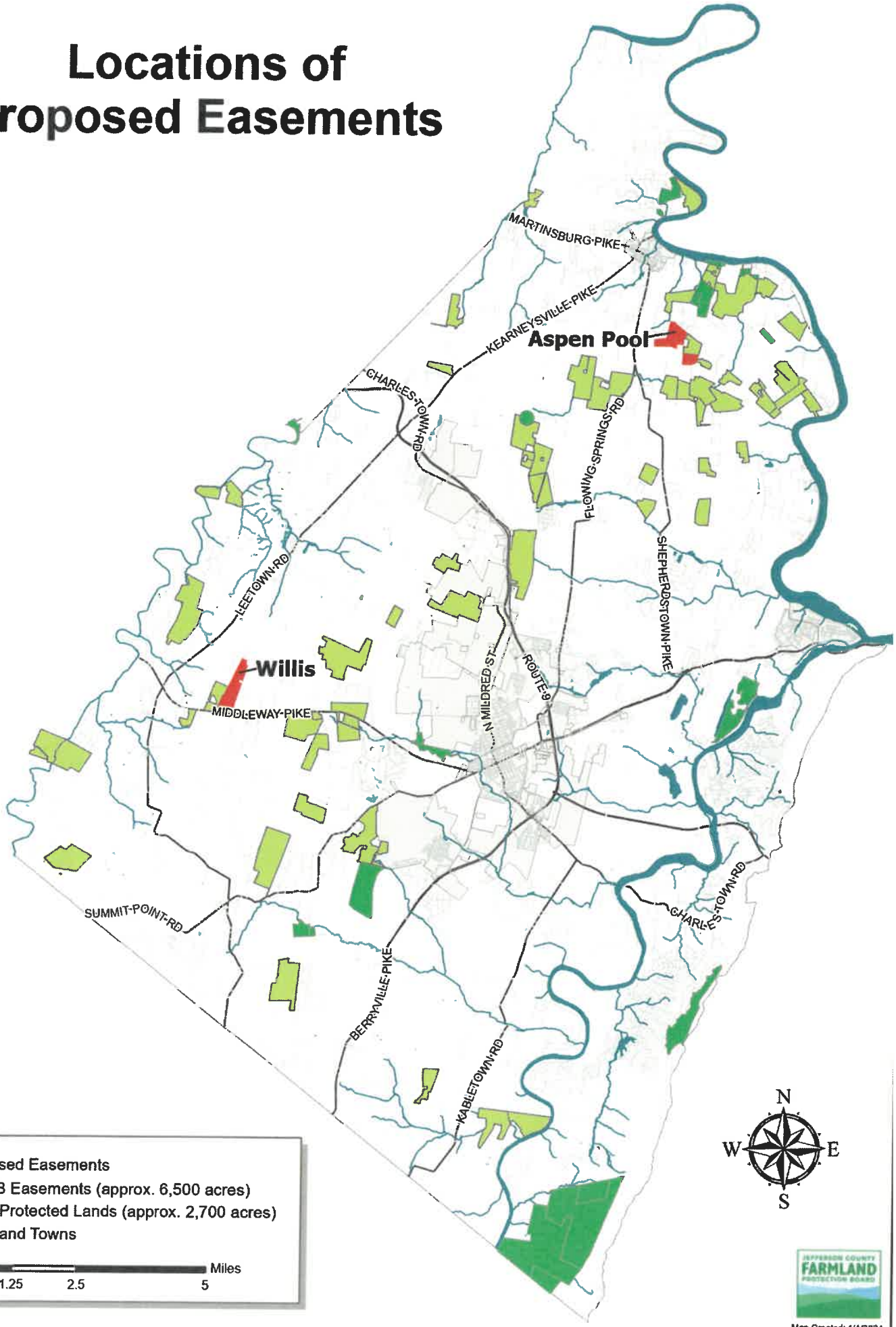
Email Address: jefferson@wvfp.org

JEFFERSON COUNTY COMMISSION
AGENDA REQUEST FORM

Additional Comments Page:

Attached: Deed of Conservation Easement, Plat, Map of protected properties in Jefferson County showing the Property 2023-01 parcel colored red.

Locations of Proposed Easements



Map Created: 1/4/2024

DEED OF CONSERVATION EASEMENT

This **DEED OF CONSERVATION EASEMENT** ("Easement" or "Conservation Easement") is dated _____ ___, 2024, to be effective as of the Effective Date (hereinafter defined), by and between **GLORIA E. WILLIS** and having an address at 102 Kinlock Road, Inwood, West Virginia 25428 ("Grantor"), and the **JEFFERSON COUNTY FARMLAND PROTECTION BOARD** ("Grantee" or "JCFPB") having its mailing address at PO Box 731, Charles Town, WV 25414. For purposes of this Easement, references to the rights, duties and obligations of Grantor and Grantee apply equally and in full force to any successors to the parties to this Easement.

WITNESSETH:

WHEREAS, Grantor is the sole owner in fee simple of certain real property in Jefferson County, West Virginia, consisting of 153.054 acres, more or less, and more particularly described in Exhibit A attached hereto and incorporated herein by this reference (the "Property"). The Property is also shown on that certain plat titled "Conservation Easement desired by the Jefferson County Farmland Protection Board" recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia (the "Clerk's Office") in Plat Book _____, at Page ____ and incorporated herein by this reference (the "Farmland Protection Plat"). The Property is the same real property conveyed to Grantor by a deed of record in the Clerk's Office in Deed Book 928, Page 426;

WHEREAS, the Property possesses agricultural soils, including prime, unique and significant soils; open space and scenic views, , and natural values (collectively, "Conservation Values") of great importance to Grantor, the people of Jefferson County, and the people of the State of West Virginia, and all current and future generations of mankind;

WHEREAS, the specific Conservation Values of the Property are documented in an inventory of relevant features of the Property, on file at the offices of Grantee and incorporated herein by this reference ("Baseline Documentation Report"), that consists of reports, maps, photographs, and other documentation that the parties agree provide an accurate representation of the Property as of the Effective Date of this Easement and that is intended to serve as an objective information baseline for monitoring compliance with the terms of this Easement;

WHEREAS, Grantor and Grantee have the exclusive common purpose of preserving the agriculture and open space character of the Property, and intend this DEED OF CONSERVATION EASEMENT to be a "qualified conservation contribution" under Section 170(h) of the Internal Revenue Code of 1986, as amended, and the regulations thereunder (the "Code");

WHEREAS, Grantor further intends, as owner of the Property, and with this Conservation Easement that encumbers 153.054 acres, more or less, of the Property, to convey to Grantee the right to preserve and protect the Conservation Values of the Property in perpetuity;

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WHEREAS, the Legislature of the State of West Virginia ("Legislature") has recognized the importance and significant public benefit of conservation and preservation easements in its ongoing efforts to protect the natural, historic, agricultural, open-space and scenic resources of the State of West Virginia, including statutory support for these important goals in WV Code §8A-12 (Land Use Planning - Voluntary Farmland Protection Programs), and WV Code §20-12 (Natural Resources-Conservation and Preservation Easements);

WHEREAS, the Legislature has declared that agriculture is a unique life-support industry and recognizes the need to support the irreversible loss of agricultural land and has authorized the State of West Virginia and its counties so desiring to protect agricultural land and woodland as open-space land, to develop programs and to accept qualifying properties voluntarily entered into the program;

WHEREAS, the importance of the Property to the State of West Virginia and Jefferson County is being confirmed by JCFPB's payment of $750,000 toward the acquisition of this Conservation Easement by JCFPB;

WHEREAS, the County Commission of Jefferson County, West Virginia ("County Commission") has declared that the agriculture community of Jefferson County provides sources of agricultural products for the citizens of the state; enhances tourism, protects worthwhile community values, institutions and landscapes which are inseparably associated with traditional farming; and controls urban expansion which is consuming land, topsoil and woodland of the county;

WHEREAS, the County Commission has resolved to provide landowners in Jefferson County an opportunity to voluntarily protect agricultural land by creating JCFPB and authorizing it to create and administer the Jefferson County Farmland Protection Program;

WHEREAS, JCFPB is a public agency established to provide landowners with an opportunity to voluntarily protect agricultural land in Jefferson County by the voluntary placement of conservation or preservation easements on eligible property;

WHEREAS, JCFPB was established as a conservation easement holder through the State of West Virginia Voluntary Farmland Protection Act at WV Code §§8A-12-1 et seq. and is qualified to hold conservation easements under Section 170(h) of the Internal Revenue Code of 1986;

WHEREAS, protection of the Property will accomplish a number of the factors determining "significant public benefit" under Treas. Reg. Section 1.170A-14(d)(4)(iv);

WHEREAS, accordingly, protection of the Property is for the scenic enjoyment of the general public and will yield a significant public benefit, and therefore this Easement meets the requirements of Section 170(h)(4)(A)(iii)(I) of the Code;

WHEREAS, accordingly, protection of the Property is pursuant to clearly delineated federal, state, and local governmental conservation policies, and will yield a significant public

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benefit, and therefore this Easement meets the requirements of Section 170(h)(4)(a)(iii)(II) of the Code; and

WHEREAS, Grantee affirms that this Easement represents a unique and valuable asset to the quality of life in Jefferson County and the State of West Virginia and that by the acceptance of this Easement that it will act in good faith to uphold this Conservation Easement and not seek to benefit from its conversion or elimination and agrees by accepting this grant to honor the intentions of Grantor stated herein and to preserve and protect in perpetuity the Conservation Values of the Property for the benefit of this generation and the generations to come.

NOW, THEREFORE, in consideration of the above and the mutual covenants, good and valuable consideration, terms, conditions and restrictions contained herein, and pursuant to the laws of the State of West Virginia, Grantor hereby voluntarily grants, bargains, and conveys to Grantee a conservation easement (as defined in the West Virginia Conservation and Preservation Easement Act, WV Code §§ 20-12-1 through 20-12-8) in perpetuity over the Property of the nature and character and to the extent hereinafter set forth in this Easement. It is the purpose of this Easement to assure that the Property will be retained forever in its natural, agricultural, and open space condition and to prevent any use of the Property that will significantly impair or interfere with the Conservation Values of the Property, including its qualifying prime, unique, statewide and locally important soils.

To achieve these objectives, the terms, conditions, and restrictions of this Easement are hereinafter set forth.

I. TERMS, CONDITIONS AND RESTRICTIONS

Grantor reserves to Grantor, and to Grantor's successors, and assigns, all rights accruing from its ownership of the Property, including the right to engage in or permit or invite others to engage in all uses of the Property that are not expressly prohibited herein and are not inconsistent with the purpose of this Easement and the perpetual protection of the Conservation Values and are not destructive of other significant conservation interests. The following terms, conditions and restrictions clarify and govern the intent of Grantor and Grantee:

1. **Use and Quiet Enjoyment.** Grantor has the right to reside on the Property and to benefit from all aspects of the quiet enjoyment of the Property. Grantor has the right to engage in any and all personal recreational uses of the Property, including, but not limited to, hiking, touring, swimming, camping, biking, hunting and fishing, that require no development of the land and are consistent with the Conservation Values.

2. **Agricultural Uses of the Land.** Grantor may engage in any and all agricultural uses of the Property. For example, the production of plants and animals useful to man, including, but not limited to, forage, grain and field crops; pasturage, dairy and dairy products; poultry and poultry products; equestrian uses; livestock and fowl uses and livestock and fowl products; bees and apiary products; fruits nuts and vegetables of all kinds; nursery, floral and greenhouse products; aquaculture; a grain mill; and the processing and storage of the agricultural products

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produced principally on the Property are permitted. Any secondary agricultural activity, including, but not limited to, farm mechanics, blacksmithing, or related activities, shall be considered an agricultural activity. However, such activities or businesses must be undertaken in the existing and permitted agricultural or residential structures and must be consistent with the Conservation Values and the maintenance of the high quality of the agricultural soils and the Conservation Values of the Property.

3. **Agricultural Structures.** Grantor has the right to maintain, place, and, with notice to Grantee, construct agricultural structures contributing to the production, primary processing, direct marketing and storage of agricultural products produced principally on the Property ("Agricultural Structures"). Agricultural Structures shall be limited by the maximum square footage as described in Paragraph I.10 (Maximum Impervious Surface Coverage) and shall be constructed in specific locations where such structures do not have an adverse impact on the Conservation Values.

4. **Retail Sale of Farm Products.** Businesses directly related to the retail sale of farm products produced primarily on the Property that are supportive and agriculturally compatible may be established on the Property. Such businesses include roadside stands or structures to facilitate the direct sale to the public of agriculture products. Structures permitted under this paragraph (4) shall be subject to Paragraph I.10. (Maximum Impervious Surface Coverage).

5. **Activities for Religious, Charitable or Educational Purposes or to Foster Tourism.** Prior to the commencement of such activities, and with notice to Grantee, activities or businesses undertaken for charitable or educational purposes or to foster tourism may be conducted on the Property in order to foster rural economic uses while protecting the rural character of the Property. Such activities or businesses must be compatible with and supportive of the rural character of the Property and must remain incidental to the agricultural and open space character of the Property.

(a) Non-agricultural commercial and industrial structures and uses are prohibited. Activities or businesses undertaken for charitable or education purposes or to foster tourism must be undertaken in the agricultural structures permitted under Paragraph I.3 (*Agricultural Structures*) or Paragraph I.7 (*Residential Dwellings*) Residential Dwellings; no other structures are permitted on the Property.
(b) Stables, horseback riding arenas, and supporting pavilion(s) and buildings are considered agricultural buildings. Such buildings shall be limited by the maximum square feet as described in Terms, Conditions and Restrictions-Maximum Impervious Surface Coverage.
(c) Accommodation of tourists and visitors is permitted but only within permitted residential structures and appurtenances, and/or agricultural structures, except for rural recreational activities such as hayrides, corn mazes, etc.
(d) Accommodation of overnight guests is permitted, but only within the permitted residential structure.

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(e) Commercial operation of dune buggies, motorcycles, all-terrain vehicles, hang gliders, aircraft, jet skis, motorized boats or any other types of mechanized vehicles whether or not considered to foster tourism is prohibited.

(f) Extensive commitment of land resources as required by golf courses, racetracks, tennis clubs, baseball, soccer and other ball fields and similar uses whether or not considered to foster tourism is prohibited.

6. **Home-based Businesses.** Any home-based business that does not require a Division of Environmental Protection permit to operate may be conducted on the Property, provided that:

(a) The occupation or business use must be conducted entirely within the single residential dwelling or appurtenances allowable under *Terms, Conditions and Restrictions - Residential Dwellings*.

(b) The use of the dwelling for a home-based business shall be clearly incidental and subordinate to the use of such residential dwelling for residential purposes.

7. **Residential Dwellings.** Grantor and Grantee acknowledge the existence of no residential dwellings on the Property. Grantor may construct one (1) single residential dwelling on the Property, to be located within a separate two (2) acre building envelope as indicated in Exhibit B (the "Retained Development Right"). No other residential dwellings shall be constructed or placed on the Property.

(a) The residential dwelling shall be contained in a building envelope ("Residential Area") no greater than two (2) acres. The Retained Development Right may be constructed anywhere within the building envelope described in Exhibit B.

(b) The Grantor has the right to maintain, repair, enlarge or replace the single residential dwelling as the Grantor so desires, except that the impervious surface of the single residential dwelling shall be limited to five thousand (5,000) square feet.

(c) The Grantor has the right to construct appurtenances such as garages, sheds and recreational facilities within the building envelope except that the total allowed impervious surface within the building envelope including the single residential dwelling, shall not exceed nine thousand (9,000) square feet.

(d) The single residential dwelling may house one or more families or occupants, but shall not be converted or divided into to a multi-family dwelling.

(e) Except as provided in Paragraph I.7 (Residential Dwellings), no other dwellings shall be constructed or placed on the Property, except for Agricultural Structures permitted herein under Paragraph I.3. (Agricultural Structures), which may be placed anywhere on the Property subject to the provisions of Paragraph I.3 (Agricultural Structures).

8. **Transfer of Development Rights.** All other development rights not specifically reserved under this Easement are hereby extinguished and shall not be transferred to any other

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property pursuant to a transfer of development rights program or any other means or used to calculate permitted development density.

The Property and any portion thereof shall not be included as part of the gross area of other property not subject to this Conservation Easement for the purposes of determining density, lot coverage, or open spaces requirements under otherwise applicable laws, regulations or ordinances controlling land use and building density. No development rights which have been encumbered or extinguished by this Conservation Easement shall be transferred to any other lands pursuant to a transferable development rights scheme or cluster development arrangement or otherwise.

9. **Subdivision.** It is the intention of Grantor to protect the open space values of the Property. Accordingly, subdivision of the Property is prohibited. Grantor acknowledges and agrees that the designation of the Residential Area on the Farmland Protection Plat does not constitute a subdivision of land and the Residential Area shall not be conveyed separately from the remainder of the Property.

10. **Maximum Impervious Surface Coverage.** The total surface coverage of impervious surfaces on the Property shall be subject to the limitations defined below.

(a) Impervious surfaces shall be defined as any material which covers land and inhibits the percolation of storm water directly into the soil, including, but not limited to, buildings, roofs, the area covered by permanent or nonpermanent structures, macadam and pavement, gravel and stone driveways and parking areas.

(b) See Paragraph I.7 Residential Dwellings)) for impervious surface limits relating to the Residential Dwelling and structures considered as an appurtenant to such dwellings.

(c) The total surface coverage of the Property by all impervious surfaces, including the Residential Dwelling, structures considered as an appurtenance to such dwelling, Agricultural Structures, and all driveways and parking areas, shall not exceed 133,340 square feet, which is less than two percent (2%) of the total Property.

11. **Removal of Natural Resources.** Ditching, draining, diking, filling, excavating, removal of topsoil or sand, gravel or rock on the Property is prohibited, except when such activities are conducted in order to carry out activities permitted under this Easement, are in accordance with a conservation plan that takes into account the perpetual protection of the Conservation Values, do not exceed one (1) acre in total area and are restored within a reasonable time period. The exploration, development, mining or extraction of minerals, oil, gravel, gas or any other hydrocarbon substance from the Property, by any method, including surface mining, is prohibited.

12. **Management of Woodland Resources**. Easement property with contiguous forest that exceeds the greater of forty (40) acres or twenty (20) percent of the easement area will

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have a Forest Management Plan. The agricultural use of timber and woodland products on the Property is permitted under a current forest management plan subject to approval by the Grantee.

The sale of timber and woodland products from the Property, or any on-site use for trade or profit, is permitted under a Forest Stewardship Plan (or a similar plan meeting the same requirements) approved by the West Virginia Division of Forestry and accepted by the Grantee. Forest management and timber harvesting activities must be carried out in accordance with all applicable local, State, Federal, and other governmental laws and regulations; be consistent with this Deed of Easement and the protection of Conservation Values of the Property, and be in compliance with the approved Forest Stewardship Plan.

The use of timber and woodland products of not more than one percent (1%) in any two-year period on site is permitted without a Forest Stewardship Plan and will not require acceptance by the Grantee. A Forest Stewardship Plan shall not be required for the following permitted activities and do not require prior acceptance by the Grantee:

(a) removal of trees posing an imminent hazard to the health or safety of persons or livestock;

(b) cutting of trees for firewood, or for other domestic uses of Grantor;

(c) cutting of trees for the construction or maintenance of permitted structures or landscaping within the Retained Development Right Area or for access otherwise permitted in this Easement;

(d) removal of trees for the maintenance of or the improvement to existing pastures or fence lines;

(e) removal of invasive species both plant and insect; and/or

(f) removal of storm-damaged trees.

The Grantor reserves the right to remove all trees on a portion of the Property as indicated in the Easement Documentation Report that has a Conservation Value of qualifying soil (soil of prime, unique, or locally significant value) but was forested at the time this Easement Deed was recorded. Such tree removal may only occur as an act of converting woodland to agriculture. Such tree removal shall be carried out under a Conservation Plan approved by the Grantee.

Forest management and timber harvesting activities must be carried out in accordance with all applicable local, State, Federal, and other governmental laws and regulations and be consistent with this Easement and the protection of Conservation Values of the Property.

Forest management and timber harvesting in excess of one percent (1%) of available timber in any two-year period must be performed in accordance with a written Forest Management Plan consistent with this Conservation Easement prepared and signed by a licensed professional forester. The plan shall be subject to Grantee's approval, which shall not be

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unreasonably withheld, conditioned or delayed, to ensure it is consistent with the Conservation Values. Said plan must have been prepared not more than ten (10) years prior to the date any harvesting is expected to commence.

13. Other Construction. Except as specifically permitted above in Paragraphs I.3 and 1.7, there shall be no constructing or placing of any buildings, manufactured homes, swimming pools or other recreational facilities, commercial lighting or any other temporary or permanent structure or facility on or above the Property. Existing roads as identified in the Baseline Documentation Report may be maintained and repaired in their current state. New roads may be constructed only if they are necessary for agricultural operations. Paved roads are subject to the impervious surface limitations referenced above.

14. Fences. Existing fences may be repaired, replaced, removed or relocated, and new fences may be built on the Property as necessary for agricultural operations on the Property, including customary management of livestock, protection of crops and plantings, and to delineate the boundary of the Property.

15. Signs. Except for signs intended to deter trespassers or unauthorized hunters, for-sale signs, signs identifying this Easement, and signs to advertise an on-site activity or business, all other signs, advertisements and billboards of any nature are prohibited. The permitted signs may not exceed fifteen (15) square feet per sign. Grantor reserves the right to approve any sign suggested by Grantee.

16. Wastes. Dumping or storage of trash, garbage, hazardous substances, abandoned vehicles or machines or other material on the Property is prohibited. However, composting of biodegradable material used or produced on the Property to improve gardens and pastures on the Property is permitted so long as composting and its application is consistent with a conservation plan.

17. Utilities. Grantor shall not sell, lease or grant an easement covering any portion of the Property where such sale, lease or easement is for the purpose of construction and installation of underground or above-ground utility systems, including, but not limited to, water, sewer, power, fuel, sewerage pumping stations, and cellular telephone or other communication towers. Notwithstanding the foregoing, Grantor may install utilities necessary for the permitted residential and agricultural structures.

18. Streams, Wetland and Water Bodies. There shall be no pollution, alteration, depletion of surface water, natural water courses, lakes, ponds, marshes, wetlands, springs, subsurface water or any other water bodies, nor shall there be activities conducted on the Property which would be detrimental to water purity, or which could alter natural water level and/or flow in or over the Property. Nothing in this paragraph shall prohibit the creation or dredging of farm ponds and allow the reasonable use of the available water of the Property for agricultural purposes on the Property permitted by this Easement. Structures and facilities associated with irrigation, farm pond impoundment, and soil and water conservation on the Property shall be considered an

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agricultural use. Expansion and construction of ponds and structures shall be in accordance with the conservation plan and must have the consent of the Grantee. Farm ponds shall not exceed two (2) acres in area.

II. GENERAL PROVISIONS

1. **Access.** No right of access by the general public to any portion of the Property is conveyed by this Easement.

2. **Rights of the Grantee.** To accomplish the purpose of this Easement the following rights are conveyed to Grantee or its agent by this Easement:

(a) To preserve and protect the Conservation Values of the Property;

(b) To enter upon the Property on a yearly basis (or more frequently if violations are observed or suspected) in order to monitor Grantor's compliance with and otherwise enforce the terms of this Easement; provided that such entry shall be upon prior reasonable notice to Grantor, and Grantee shall not unreasonably interfere with Grantor's use and quiet enjoyment of the Property; and

(c) To prevent any activity on or use of the Property that is inconsistent with the purpose of this Easement and to require the restoration of such areas or features of the Property that may be damaged by any inconsistent activity or use, pursuant to Paragraph II.4 (Grantee's Remedies).

3. **Grantee Notification/Approval.** Grantor reserves for themselves the right to engage in any and all activities not expressly prohibited herein and not inconsistent with the purpose of this Easement without seeking the approval of Grantee, provided, however, Grantor shall notify Grantee, in writing, before exercising any reserved right which may have an adverse impact on the purpose of this Easement.

4. **Grantee's Remedies.**

(a) **Notice of Violation: Corrective Action**. If Grantee determines that Grantor is in violation of the terms of this Easement or that a violation is threatened, Grantee shall give written notice to Grantor of such violation and demand corrective action within sixty (60) days sufficient to cure the violation and, where the violation involves injury to the Property resulting from any use or activity inconsistent with the purpose of this Easement, to restore the portion of the Property so injured to its condition described in the Baseline Report in accordance with a plan approved by Grantee.

(b) **Injunctive Relief.** The Grantee, its successors or assigns, jointly or severally shall have the right to enforce these restrictions by injunction and other appropriate proceedings, including, but not limited to, the right to require Grantor to restore the Property to the condition existing at the time of this Easement in order to correct any violation(s) of this Easement. Grantee's rights under this paragraph apply

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equally in the event of either actual or threatened violations of the terms of this Easement, and Grantor agrees that Grantee shall be entitled to the injunctive relief in addition to such other relief to which Grantee may be entitled, including specific performance of the terms of this Easement, without the necessity of proving either actual damages or the inadequacy of otherwise available legal remedies.

(c) **Costs of Enforcement.** Any costs incurred by Grantee in enforcing the terms of this Easement against Grantor, including without limitation costs of suit and attorneys' fees, and costs or restoration necessitated by Grantor's violation of the terms of this Easement shall be borne by Grantor. If Grantor prevails in action to enforce the terms of this Easement, Grantor's costs of suit, including, without limitation, attorneys' fees, shall be borne by Grantee. Costs incurred by Grantee in enforcing the terms of this Easement against third party shall be borne by Grantee.

(d) **Forbearance**. Forbearance by Grantee to exercise its rights under this Easement in the event of any breach of any term of this Easement by Grantor shall not be deemed or construed to be a waiver by Grantee of such term or of any subsequent breach of the same or any other term of this Easement or of any of Grantee's rights under this Easement. No delay or omission by Grantee in the exercise of any right or remedy upon any breach by Grantor shall impair such right or remedy or be construed as a waiver.

5. **Acts beyond the Grantor's Control.** Nothing contained in this Easement shall be construed to entitle Grantee to bring any action against Grantor for any injury to or change in the Property resulting from causes beyond Grantor's control including, without limitation, fire, flood, storm, and earth movement, or from any prudent action taken by Grantor under emergency conditions to prevent, abate, or mitigate significant injury to the Property resulting from such causes. Grantor shall take reasonable actions on the Property to prevent trespassers from taking actions on the Property. In the event the terms of this Easement are violated by acts of trespassers, Grantor agrees that Grantee has the right to pursue enforcement action against the trespassing parties.

6. **Costs, Legal Requirements and Liabilities.** Grantor, its heirs, successors and assigns retain all responsibilities and shall bear all costs and liabilities of any kind related to the ownership, operation, upkeep, and maintenance of the Property.

7. **Control.** Nothing in this Easement shall be construed as giving rise to any right or ability of Grantee to exercise physical or managerial control over the day-to-day operations of the Property, or any responsibility to the Property within the meaning of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended (42 U.S.C. §§ 9602 et seq.).

8. **Taxes.** Grantor shall pay, before delinquency, all taxes, assessments, fees and charges of whatever description levied on or assessed against the Property or residence contained

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thereon by competent authority, including any taxes imposed upon, or incurred as a result of, this Easement.

9. **Environmental Warranty.** Grantor warrants that to the best of Grantor's knowledge it is in compliance with, and will remain in compliance with, all applicable Environmental Laws. Grantor warrants to the best of Grantor's knowledge that there are no notices by any governmental authority of any violation or alleged violation of, noncompliance or alleged noncompliance with, or any liability under, any Environmental Law relating to the operations or conditions of the Property. Grantor further warrants that it has no actual knowledge of a release or threatened release of Hazardous Materials, as such substances and wastes are defined by applicable Federal and State law.

Moreover, Grantor hereby agrees to hold harmless and indemnify Grantee against all litigation, claims, demands, penalties and damages, including reasonable attorneys' fees, arising from or connected with the release or threatened release of any hazardous materials on, at, beneath or from the Property, or arising from or connected with a violation of any Environmental Laws by Grantor or any other prior owner of the Property. Grantor's indemnification obligation will not be affected by any authorizations provided by Grantee to Grantor with respect to the Property or any restoration activities carried out by Grantee at the Property; provided, however, that Grantee will be responsible for any Hazardous Materials placed on the Property by Grantee after the Effective Date of this Easement.

"Environmental Law" or "Environmental Laws" means any and all Federal, State, local or municipal laws, rules, orders, regulations, statutes, ordinances, codes, guidelines, policies, or requirements of any governmental authority regulating or imposing standards of liability or standards of conduct (including common law) concerning air, water, solid waste, hazardous materials, worker and community right-to-know, hazard communication, noise, radioactive material, resource protection, subdivision, inland wetlands and watercourses, health protection, and similar environmental health, safety, building, and land use as may now or at any time hereafter be in effect.

"Hazardous Materials" means any petroleum, petroleum products, fuel oil, waste oils, explosives, reactive materials, ignitable materials, corrosive materials, hazardous chemicals, hazardous wastes, hazardous substances, extremely hazardous substances, toxic substances, toxic chemicals, radioactive materials, infectious materials, and any other element, compound, mixture, solution, or substance which may pose a present or potential hazard to human health or the environment.

10. **Hold Harmless.** Grantor shall hold harmless, indemnify, and defend Grantee, its members, directors, officers, employees, agents, assigns, and contractors (collectively, the "Grantee") from and against all liabilities, fines, fees, penalties, costs, losses, damages, expenses, causes of action, suits, proceedings, claims, demands, judgments, and sanctions asserted by or on behalf of any person or governmental authority, and other liabilities (whether legal or equitable in nature and including, without limitation, court costs and reasonable attorneys' fees and attorneys' fees on appeal), to which the Grantee may be subject or which the Grantee may incur relating to the Property, which may arise from, but are not

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limited to, Grantor's negligent acts, omissions, or breach of any representation, warranty, covenant, or agreements contained in this Easement, or violations of any state or local laws, including all environmental laws.

11. **Proceeds for Extinguishment**. The conveyance of this Easement gives rise to a property right immediately vested in the Grantee, with a fair market value that is at least equal to the proportionate value that the easement, at the time of the conveyance, bears to the fair market value of the Property as a whole at that time. The proportionate value of Grantee's property rights remains constant such that if a subsequent sale, exchange, or involuntary conversion of the Property occurs, Grantee is entitled to a portion of the proceeds at least equal to that proportionate value, unless state law provides that the Grantor is entitled to the full proceeds from the conversion without regard to the terms of this Easement. If circumstances arise in the future that render the purpose of this Easement impossible or impractical to accomplish, this Easement can only be terminated or extinguished, whether in whole or in part, by judicial proceedings in a court of competent jurisdiction. At the date the Conservation Easement was conveyed, the proportionate values were as follows: Grantor is 28.6% of the appraised fair market value of the Property. Grantee is 71.4% of the appraised fair market value of the Property. All of Grantee's portion of the proceeds from a subsequent sale or exchange of the Property shall be used by the Grantee in a manner consistent with the conservation purposes of the original conveyance.

In making this Easement, Grantor has considered the possibility that uses prohibited by the terms of this Easement may become more economically valuable than permitted uses, and that neighboring properties may in the future be put entirely to such prohibited uses. Grantor believes that any such changes in the use of neighboring properties will increase the benefit to the public of continuation of this Easement, and Grantor and Grantee intend that any such changes shall not be deemed to be circumstances justifying the termination or extinguishment of this Easement.

12. **Condemnation**. If the Easement is taken, in whole or in part, by exercise of the power of eminent domain, Grantor shall be entitled to compensation at not less than the fair market value of the Property determined without regard to the existence of the Easement, if state law provides that the Grantor is entitled to the full proceeds from the taking without regard to the terms of this Deed of Easement. Grantors, upon receipt of notification of any pending condemnation action brought by any government entity affecting and/or relating to the Property, shall notify the Grantee in writing, within fifteen (15) days of receipt of said notification.

13. **Assignment.** This Easement is not transferable by the Grantee to any other local, county or state department, board, agency, commission or successor. In the event that JCFPB ceases to operate or exist, the rights of the Grantee under this Easement shall be transferred by a court of competent jurisdiction to an organization that is a qualified organization under Section 170(h)(3) of the Code, as amended, and is an eligible donee under Treas. Reg. Section 1.170A-14(c)(1), and is a West Virginia-domiciled organization authorized to acquire and hold conservation easements under the West Virginia Conservation and Preservation Easements Act (WV Code §§20-12-1, et seq.).

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The Grantee further covenants and agrees that the terms of the transfer or assignment will be such that the transferee or assignee will be required to continue to carry out in perpetuity the conservation purposes which this Easement was originally intended to advance. The transfer of this Easement to a new or successor transferee or assignee will not create a financial obligation of any kind on the Grantor.

14. **Subsequent Transfers.** Grantor agrees to incorporate the terms of this Easement in any deed or other legal instrument by which they divest themselves of any interest in all or a portion of the Property, including, without limitation, a leasehold interest.

15. **Estoppel Certificates.** Upon request by Grantor, Grantee shall within thirty (30) days execute and deliver to Grantor any document, including an estoppel or compliance certificate, which certifies to the best of Grantee's knowledge Grantor's compliance with any obligation of Grantor contained in this Easement and otherwise evidences the status of this Easement as may be requested by Grantor.

16. **Notices.** Any notice, demand, request, consent, approval, or communication that either party desires or is required to give to the other shall be in writing and either served personally or sent by certified mail, return receipt, addressed as follows:

To Grantor: Gloria E. Willis
102 Kinlock Road
Inwood, West Virginia 25428

To Grantee: Jefferson County Farmland Protection Board
PO Box 731
Charles Town, WV 25414

or to such other address as either party from time to time shall designate by written notice to the other.

17. **Recordation; Effective Date.** This instrument shall be effective (the "Effective Date") when it has been delivered for recording to the Office of the Clerk of the County Commission with a date-stamped copy retained as proof of timely delivery. Grantee shall record this instrument in timely fashion with the Clerk of the County Commission of Jefferson County, West Virginia, and in no event not more than sixty (60) days after the Effective Date and may re-record it at any time as may be required to preserve its rights in this Easement.

18. **Amendment.** If circumstances arise under which an amendment to or modification of this Easement would be appropriate, Grantors and Grantee are free to jointly amend this Easement; provided that no amendment shall be allowed that will invalidate this Easement or be inconsistent with the purpose of this Easement, and shall not affect its perpetual duration. Any such amendment shall be recorded as above specified. No such amendment shall be effective unless in writing and signed by all parties hereto.

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Pursuant to IRS Notice 2023-30, Grantor and Grantee agree that boundary line adjustments to the real property subject to the Easement may be made only pursuant to a judicial proceeding to resolve a bona fide dispute regarding a boundary line's location.

19. **Other Provisions.**

(a) **Controlling Law.** The interpretation and performance of this Easement shall be governed by the laws of the State of West Virginia.

(b) **Severability; Interpretation.** If any provision of this Easement, or the application thereof to any person or circumstance, is found to be invalid, the remainder of the provisions of this Easement, or the application of such provision to persons or circumstances other than those as to which it is found to be invalid, as the case may be, shall not be affected thereby. If any provision of this Easement is arguably construed as ambiguous, an interpretation of said provision that is consistent with the perpetual protection of the Conservation Values and the purpose of this Easement shall be favored over any interpretation that would inconsistent therewith.

(c) **No Forfeiture.** Nothing contained herein will result in a forfeiture or reversion of the Grantor's title in any respect.

(d) **Successors.** The covenants, terms, conditions, and restrictions of this Easement shall be binding upon and inure to the benefit of the parties hereto and their respective personal representatives, heirs, successors, and assigns, and shall continue as a servitude running in perpetuity with the Property.

(e) **Captions.** The captions herein have been inserted solely for convenience of reference and are not a part of this Easement and shall have no effect upon construction or interpretation.

(f) **Subordination.** Any mortgage or lien arising after the date of this Easement shall be subordinated to the terms of this Easement.

(g) **Title Warranties.** Grantor warrants that Grantor has good title to the Property; that Grantor has the right to convey this Easement, and that the Property is free and clear of any encumbrances.

(h) **Merger.** If Grantee at some future time acquires the underlying fee title in the Property, the interest conveyed by this Easement will not merge with fee title but will continue to exist and be managed as a separate estate. The Grantor and Grantee explicitly agree that it is their express intent, forming a part of the consideration hereunder, that the provisions of this Easement are to last in perpetuity, and that to that end no purchase or transfer of the underlying fee interest in the Property by or to the Grantee, or any successor or assignee will be deemed to eliminate these conservation easement terms, or any portion thereof, pursuant to the doctrine of "merger" or any other legal doctrine.

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(i) **Representation of Authority**. Each signatory to this Easement represents and warrants that he or she is duly authorized to enter into and execute the terms and conditions of this Easement and to legally bind the party he or she represents.

(j) **No Goods or Services**. Pursuant to the requirements of Section 170(f)(8) of the Code, Grantor and Grantee acknowledge that other than the $750,000 paid by JCFPB toward the acquisition of this Easement, no goods or services or other consideration have been provided by Grantee to Grantor as consideration for this Easement, and Grantee will provide Grantor with a separate letter so stating.

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[Signature Page Follows]

Approved per Sect. 20.107
of Jefferson Co. Sub Regs
Jennifer N. Brockman
01.05.24

File #23-3-E

DEED OF CONSERVATION EASEMENT

DECLARATION OF CONSIDERATION OF VALUE. The undersigned hereby declare under penalty of fine and imprisonment as provided by law, that the conveyance made by this document is a transfer of property right to a county governmental entity, and therefore is exempt from the West Virginia excise tax due on the transfer of real property.

IN WITNESS WHEREOF Grantor and Grantee have set their hand:

GRANTOR:

_____

GLORIA E. WILLIS

GRANTEE:

JEFFERSON COUNTY FARMLAND PROTECTION BOARD

By _____

Name:
Title:

[Notary Acknowledgements Appear on Following Page]

DEPT
OF
PZ&E

DEED OF CONSERVATION EASEMENT

STATE OF WEST VIRGINIA

COUNTY OF JEFFERSON, to-wit:

The foregoing instrument was acknowledged before me this _____ day of _____, 2024, by Gloria E. Willis.

My commission expires: _____

_____
Notary Public

STATE OF WEST VIRGINIA

COUNTY OF JEFFERSON, to-wit:

The foregoing instrument was acknowledged before me this _____ day of _____ 2024, by _____, President of the Jefferson County Farmland Protection Board on behalf of the Board.

My commission expires: _____

_____
Notary Public

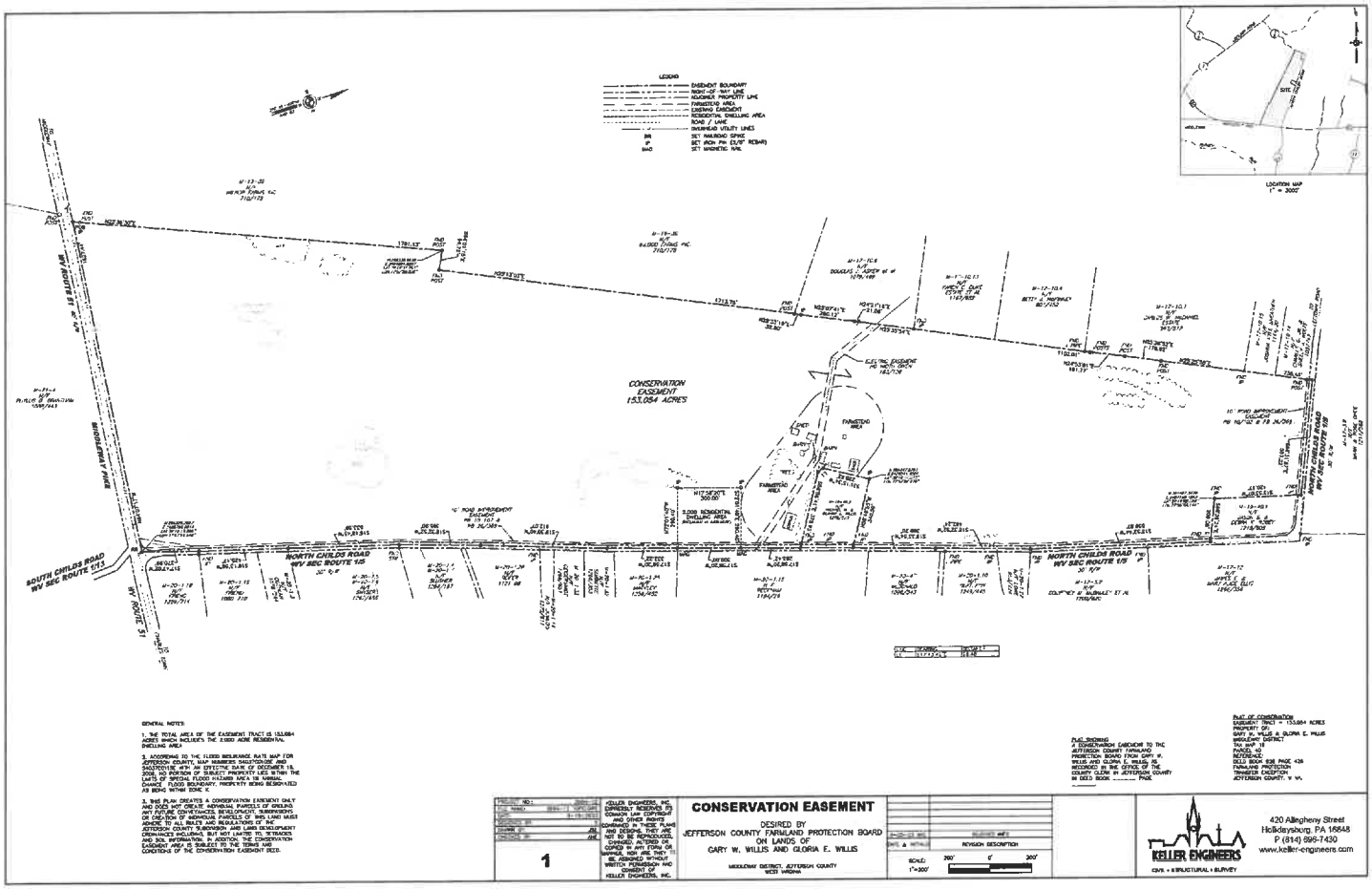
DEPT
OF
PZ&E

SCHEDULE OF EXHIBITS

Exhibit A: Legal Description of Property Subject to Easement

Exhibit B: Residential Area

DEPT
OF
PZ&E



GENERAL NOTES:

1. THE TOTAL AREA OF THE EASEMENT TRACT IS 153.084 ACRES WHICH INCLUDES THE 2.000 ACRE RESIDENTIAL DWELLING AREA.

2. ACCORDING TO THE FLOOD INSURANCE RATE MAP FOR JEFFERSON COUNTY, MAP NUMBERS 54037C0120E AND 54037C0115E WITH AN EFFECTIVE DATE OF DECEMBER 18, 2008, NO PORTION OF SUBJECT PROPERTY LIES WITHIN THE LIMITS OF SPECIAL FLOOD HAZARD AREA OR MINIMAL CHANCE FLOOD BOUNDARY, PROPERTY BEING DESIGNATED AS BEING WITHIN ZONE X.

3. THIS PLAN CREATES A CONSERVATION EASEMENT ONLY AND DOES NOT CREATE INDIVIDUAL PARCELS OF BUILDING ANY FUTURE CONVEYANCES, DEVELOPMENT, SUBDIVISIONS, OR CREATION OF ADDITIONAL PARCELS OF ANY LAND MUST ADHERE TO THE JEFFERSON COUNTY FARMLAND PROTECTION BOARD, JEFFERSON COUNTY SUBDIVISION AND LAND DEVELOPMENT ORDINANCES INCLUDING, BUT NOT LIMITED TO, SETBACKS AND SOIL INFORMATION. IN ADDITION, THE CONSERVATION EASEMENT AREA IS SUBJECT TO THE TERMS AND CONDITIONS OF THE CONSERVATION EASEMENT DEED.

PLAT SHOWING
A CONSERVATION EASEMENT TO THE JEFFERSON COUNTY FARMLAND PROTECTION BOARD ON LANDS OF GARY W. WILLIS AND GLORIA E. WILLIS III, RECORDED IN THE OFFICE OF THE COUNTY CLERK IN JEFFERSON COUNTY IN DEED BOOK _____ PAGE _____

PLAT OF CONSERVATION
EASEMENT TRACT = 153.084 ACRES
PROPERTY OF
GARY W. WILLIS & GLORIA E. WILLIS
MIDDLERUN DISTRICT
TAX MAP 19
PARCEL 42
DEED REFERENCE
DEED BOOK 838, PAGE 438
FARMLAND PROTECTION
TRANSFER EXCEPTION
JEFFERSON COUNTY, W VA.

PROJECT NO.:	[redacted]
FILE NAME:	[redacted]
DRAWN BY:	[redacted]
CHECKED BY:	[redacted]
SHEET NO.	1

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CONSERVATION EASEMENT

DESIRED BY
JEFFERSON COUNTY FARMLAND PROTECTION BOARD
ON LANDS OF
GARY W. WILLIS AND GLORIA E. WILLIS

MIDDLERUN DISTRICT, JEFFERSON COUNTY
WEST VIRGINIA

DRAWN BY:	[redacted]
CHECKED BY:	[redacted]
DATE:	[redacted]
SCALE:	1"=200'

NO.	REVISION DESCRIPTION

200' 0' 200'

KELLER ENGINEERS
CIVIL • STRUCTURAL • SURVEY
420 Allegheny Street
Hollidaysburg, PA 16648
P (814) 695-7430
www.keller-engineers.com

JEFFERSON COUNTY COMMISSION
AGENDA REQUEST FORM

Name: Dan Murphy

Department or Organization: Greenway Engineering

Commission Meeting Date: 01/18/24

Special Meeting Date (if necessary):

Subject (*wording to be placed on agenda*):

Request to Schedule Public Hearing for Harvest Hills Subdivision Phase II request for Zoning Map Amendment

Please provide a description of your request or presentation. including any background information:

This report has been prepared on behalf of Arcadia Land, Inc. for the formal request of a Zoning Map Amendment (rezoning) regarding the subject parcels owned by Arcadia Land, Inc. and identified as District 9, Tax Map 24, Parcel (s) 12 & 13. The subject parcels are located at the terminus of Kephart Drive, off Flowing Springs Road (Rt. 17), approximately 0.5 miles north of the intersection of Shenandoah Junction Road (Rt. 20) and Flowing Springs Road (Rt. 17) SEE ADDITIONAL COMMENTS

Type of Request: (Funding/Hiring): N/A

Funding/Salary/Hourly Amount: N/A

Name of Hire (if Applicable): N/A

Grade/Step/Hours (PT/FT): N/A

Start Date (beginning of pay period): N/A

Post Probationary Increase (If applicable): N/A

Any Additional Conditions of Employment or Funding Comments:
N/A

Recommended Motion (*type out wording of the motion you would like the Commission to approve*):

Attach supporting documents for request, or request may be denied.
If not attached, explain:

Is equipment needed? ☐ Projector ☐ Internet/Wi Fi: ☐ Conference/Video ☐ No

Contact Information: Phone Number:
Email Address:

JEFFERSON COUNTY COMMISSION
AGENDA REQUEST FORM

Additional Comments Page:

A boundary survey was conducted by Greenway Engineering, Inc. that determined Parcel 12 & 13's acreages to be 94.63 acres and 257.62 acres respectively, for a total of 352.25 acres. This acreage is to be utilized for Phase II of the Harvest Hills Subdivision. Greenway is currently preparing a Merger Plat of the two parcels.

Currently, the subject parcels are both zoned Rural (R). The Owner proposes to rezone the entire 352.25± acres (94.63 & 257.62) to Residential Growth (RG), to allow for the highest and best use of the parcels as Phase II of the Harvest Hills Subdivision.

The following analysis has been organized into two (2) sections: (1) Project Summary, and (2) Substantiation for the Request. Supplemental documentation including a concept plan, survey plat, deeds, and select preferred growth area maps are also included to provide the Planning Commission with full and complete information for their consideration.

The applicant has made every effort to comply with the ordinances of Jefferson County, and to submit the most thorough application possible, with the hope that staff and the Jefferson County Planning Commission will look favorably on this application. Thank you for your consideration of this matter. Please review this information and contact me if you have any questions or need additional information regarding this matter.

JEFFERSON COUNTY COMMISSION

124 East Washington Street, P.O. Box 250, Charles Town, WV 25414
Phone: (304) 728-3284 **Fax**: (304) 725-7916
Web: www.jeffersoncountywv.org

PRESIDENT
Steve Stolipher

VICE PRESIDENT
Jane Tabb

COMMISSIONER
Tricia Jackson

COMMISSIONER
Jennifer Krouse

COMMISSIONER
Pasha Majdi

January 8, 2024

Planning Commission
116 East Washington Street
Charles Town, WV 25414

Re: Harvest Hills Subdivision Phase II, Request for Zoning Map Amendment

President Mike Shepp and Staff:

I am requesting that the Planning Commission delay consideration of the Harvest Hills Subdivision Phase II request for zoning map amendment.

It has come to my attention that parts of the agenda request were submitted late and were not included as part of the "public packet" before the January 4, 2024, Jefferson County Commission meeting. To encourage transparency and avoid the appearance of impropriety, I request the application be considered again at the next Jefferson County Commission meeting on January 18, 2024.

I have attached a timeline developed by staff detailing the adjusted timeline for consideration of the application should the Commission act on this item at the January 18th meeting. I have discussed the matter with all relevant staff and the applicant. All are not opposed to the transparency action proposed above.

Please let me know your thoughts. Thank you for your service on the Planning Commission.

Very Respectfully,

Edwina Benites-LM
Interim County Administrator

cc: Jefferson County Commissioners
Jefferson County Department of Engineering, Planning, and Zoning
Jefferson County Assistant Prosecuting Attorney's office
Mr. Dan Murphy, Greenway Engineering (applicant)
File

Interim County Administrato
Edwina Benites

Jefferson County, West Virginia
Department of Engineering, Planning and Zoning
Office of Planning and Zoning
116 E. Washington Street, 2nd Floor, P.O. Box 716
Charles Town, West Virginia 25414

Email: planningdepartment@jeffersoncountywv.org
zoning@jeffersoncountywv.org

Phone: (304) 728-3228
Fax: (304) 728-8126

File #: 23-5-Z
Date Rec'd: 12/18/23
Fees Paid: $18,650/ 06-26-23
Staff Int: AB

Zoning Map Amendment (Rezoning)

Pursuant to Article 12, a Zoning Map Amendment is a procedure to amend the official Zoning Map of the County by changing the zoning designation of a property. In order for a proposed amendment to be approved, the County Commission, with the advice of the Planning Commission, must find that the amendment is consistent with the adopted Comprehensive Plan, or if it is inconsistent, must make findings in accordance with the requirements of 8A-7-8 et seq of the WV State Code.

Property Owner Information

Owner Name: Arcadia Land, Inc
Business Name: Arcadia Land, Inc
Mailing Address: 108 N. George Street 2nd Floor, Charles Town WV 25414
Phone Number: (443)286-2786 Email:

Applicant Contact Information

Applicant Name: Same as owner: ☑
Business Name:
Mailing Address:
Phone Number: Email:

Consultant Information

Name: Dan Murphy, CFM
Business Name: Greenway Engineering, Inc
Mailing Address: 704 Foxcroft Avenue, Martinsburg WV 25401
Phone Number: (540) 486-3708 Email: dmurphy@greenwayeng.com

Physical Property Details

Physical Address: Off Kephart Drive, Shenandoah Junction WV, 25442 Vacant Lot: ☐
Tax District: 9 - Shepherdstown Map No: 24 Parcel No: 12 & 13
Parcel Size: 94.63 ac ; 257.62 ac Deed Book: 1163 ; 1173 Page No: 351 ; 85

Current Zoning District

Rural

Proposed Zoning District

Residential Growth

Substantiation for the Request

For a Zoning Map Amendment (rezoning) request, the "burden of proof" is on the applicant to show why the proposed zoning is more appropriate than the existing zoning. Accordingly, please explain how the following factors support your proposal.

Describe your proposed use/project and describe why this Zoning Map Amendment is necessary for the proposed use (and/or project) described.

See attached Zoning Map Amendment Justification

Describe how this Zoning Map Amendment will be consistent with the objectives and policies of the Comprehensive Plan.

See attached Zoning Map Amendment Justification

Discuss any change(s) of transportation characteristics (i.e. type and frequency of traffic, adequacy of existing transportation routes), and neighborhood characteristics from when the original Ordinance was adopted.

See attached Zoning Map Amendment Justification

A plat or sketch shall include the entire original parcel as it appeared on the date this Ordinance took effect. The property proposed for development shall be drawn to a reasonable scale (eg. 1" = 50', 1" = 100', or 1" = 200'). The sketch plan shall show, in simple form, the proposed layout of lots, parking areas, recreational areas, streets, building areas, and other features in relation to each other and to the tract boundaries. Contour lines, as shown on the appropriate U.S.G.S. Topographic Quadrangle Map or other data source approved by the Department, should be superimposed on the sketch plan. The source of all contour lines shall be noted on the plan. Natural features such as woods, watercourses, prominent rock outcroppings, sinkholes, and quarries shall be delineated.

The information given is correct to the best of my knowledge.

GARY J. ENPKER 12/18/2023

Property Owner Signature* Date Property Owner Signature* Date

*The **original** signature of the property owner is required. A copy of the signature will not be accepted.

A complete petition, and related fees, shall be submitted to the Office of Planning and Zoning for placement on the Planning Commission agenda at least two (2) weeks prior to the meeting date at which the petition will be presented. A copy of the application shall be submitted to the County Commission Office for inclusion on the County Commission Agenda at least one week prior to the County Commission meeting date.

REQUEST FOR ZONING MAP AMENDMENT

HARVEST HILLS SUBDIVISION, PHASE II

RURAL DISTRICT (R) TO RESIDENTIAL GROWTH (RG)

Jefferson County, West Virginia
Shepherdstown District (09)
Tax Map 24, Parcel(s) 12 & 13
Deed Book 1163, 1173
Deed Page 351, 85

June 23, 2023
Revised January 3, 2024

Current Owner: Arcadia Land, Inc.
Contact Person: Brooke Perry
Planning Manager, WV
Greenway Engineering, Inc.
704 Foxcroft Ave.
Martinsburg, WV 25401

June 23, 2023

Jefferson County
Office of Planning and Zoning
116 E. Washington Street, 2nd Floor
Charlestown, WV 25414

Re: **Harvest Hills Subdivision, Phase II - Arcadia Land, Inc.**
Zoning Map Amendment Request
(R) Rural to (RG) Residential Growth

Dear Commissioners:

This report has been prepared on behalf of Arcadia Land, Inc. for the formal request of a Zoning Map Amendment (rezoning) regarding the subject parcels owned by Arcadia Land, Inc. and identified as District 9, Tax Map 24, Parcel(s) 12 & 13. The subject parcels are located at the terminus of Kephart Drive, off Flowing Springs Road (Rt. 17), approximately 0.5 miles north of the intersection of Shenandoah Junction Road (Rt. 20) and Flowing Springs Road (Rt. 17). A boundary survey was conducted by Greenway Engineering, Inc. that determined Parcel 12 & 13's acreages to be 94.63 acres and 257.62 acres respectively, for a total of 352.25 acres. This acreage is to be utilized for Phase II of the Harvest Hills Subdivision. Greenway is currently preparing a Merger Plat of the two parcels.

Currently, the subject parcels are both zoned Rural (R). The Owner proposes to rezone the entire 352.25± acres (94.63 & 257.62) to Residential Growth (RG), to allow for the highest and best use of the parcels as Phase II of the Harvest Hills Subdivision.

The following analysis has been organized into two (2) sections: (1) Project Summary, and (2) Substantiation for the Request. Supplemental documentation including a concept plan, survey plat, deeds, and select preferred growth area maps are also included to provide the Planning Commission with full and complete information for their consideration.

The applicant has made every effort to comply with the ordinances of Jefferson County, and to submit the most thorough application possible, with the hope that staff and the Jefferson County Planning Commission will look favorably on this application. Thank you for your consideration of this matter. Please review this information and contact me if you have any questions or need additional information regarding this matter.

Sincerely,

Brooke Perry

Brooke Perry
Planning Manager, WV
Greenway Engineering, Inc.
bperry@greenwayeng.com
(304)620-5111 x103
304-620-5546

I. PROJECT SUMMARY

Phase II of the Harvest Hills Subdivision is being developed to provide lot sizes more attuned to current market demands, with a wider variety of residential products. This will include single family lots of several different sizes, attached and detached Villas, and Townhomes. In addition to proposing a wide range of products, the developer is proposing to provide multiple recreational spaces to serve Phase II as well as the existing residents, and improve the overall quality of life for all residents of Harvest Hills Subdivision. Additional Park Area of 21.8174 acres was dedicated to Jefferson County during Phase I of Harvest Hills Subdivision.

II. SUBSTANTIATION FOR THE REQUEST

Describe your proposed use/project and describe why this Zoning Map Amendment is necessary for the proposed use (and/or project) described.

The subject parcels are located at the terminus of Kephart Drive, off Flowing Springs Road (Rt. 17), approximately 0.5 miles north of the intersection of Shenandoah Junction Road (Rt. 20) and Flowing Springs Road (Rt. 17). The parcels are shown as future "Low Density Residential" on the Future Land Use Guide. The current zoning of Rural (R) permits agricultural and rural cluster density residential land uses. The rezoning to Residential Growth (RG) would allow for a variety of residential land uses such as single family (SFD), townhouses (SFA), and/or two family dwellings (SFA/Duplex). This rezoning request is consistent with the intent of the *Envision Jefferson 2035 Comprehensive Plan.*

Describe how this Zoning Map Amendment will be consistent with the objectives and policies of the Comprehensive Plan.

Preferred Growth Areas - (Page 23, *Envision Jefferson 2035 Comprehensive Plan)*

PGA (f) - Shenandoah Junction PGA/School Based Growth Area of the Section listed above states, *"Considerable input was received as to the desirability of siting schools in locations that are walkable and/or bikeable to the neighborhoods that the school serves. This PGA allows the development of such walkable neighborhoods around schools that currently exist. Planning growth around existing schools decreases bus and vehicular traffic and allows for connectivity including walking and biking trails. The recommended land uses in this area include Medium Density Residential around the schools which should be in a pattern and scale compatible with the village of Shenandoah Junction, transitioning to Low Density Residential abutting the Rural/Agricultural land uses.".* A map of the Shenandoah Junction PGA/School Based Growth Area is attached to this application for reference.

Section I of Harvest Hills Subdivision adjoins the Shenandoah Junction/Schools Preferred Growth Area boundary at its frontage, along Flowing Springs Road (Rt. 17).

PGA (g) - Residential Preferred Growth Area of the Section listed above states, *"Based on comments received during the Envision Jefferson 2035 public input process, it was determined that it is important to denote the areas where a concentration of existing or approved residential development currently exists but may be not be fully developed and is outside of the Urban Growth Boundary (UGB). One such residential area exists that consists of properties currently zoned for Residential Growth (RG) or which have a vested development right to develop at a low density or medium density residential rate. This core residential area, bounded by Old Country Club Road, Flowing Springs Road, Job Corps Road, Shepherdstown Pike (WV 230) to the railroad tracks, is depicted by a Preferred Growth Area boundary, but is compromised only of future large lot, low density, and medium density residential uses. It is anticipated that this will be a*

primarily detached single family suburban housing area.". A map of the Residential PGA is attached to this application for reference.

The subject parcels are both located just north of the Residential Preferred Growth Area boundary.

The Section goes on to state, *"Outside of this residential PGA, other properties zoned RG or with vested residential rights based on a subdivision approval are also shown on the Future Land Use Guide as future low or medium density residential (depending on the scale of development as part of an individual project) to reflect the future build out of various neighborhoods.".*

The Harvest Hill Subdivision is one of the properties referenced above "*with vested residential rights based on a subdivision approval*".

Future Land Use Guide - (Pages 26 & 235, *Envision Jefferson 2035 Comprehensive Plan*)

The parcels that are part of this Zoning Map Amendment request are shown on the Future Land Use Guide as Future "Low Density Residential". Appendix G of the *Comprehensive Plan* provides a detailed explanation of the Land Use Map Classifications utilized on the Existing Land Use Map and Future Land Use Guide, which are intended to provide guidance to the Planning and County Commissions when considering owner-initiated zoning map amendments (rezoning requests). It further notes that while some of the land use classifications may require new zoning categories, the land uses were not intended to be a comprehensive list of possible zoning districts.

Appendix G - Land Use Map Classifications of the *Envision Jefferson 2035 Comprehensive Plan* states that the "Low Density Residential" land use category is a land use category which anticipates *"land occupied by a single family residential development, with a density of one unit per acre to 2.99 units per acre. Lots in this category may be served by either onsite well and septic systems or a public water and sewer system as the number of units per acre increases".* As the current Jefferson County Zoning Ordinance does not include a variety of zoning categories which anticipate certain residential densities, Residential Growth (RG) is a category that would permit Low Density Residential land uses.

Under the previous Zoning Ordinance, the subject parcels, as well as multiple properties to the south, received approval for Conditional Use Permits (CUPs) that allowed the development of these properties at suburban residential subdivision densities. Market conditions at the time were no longer conducive to Harvest Hills Subdivision moving forward with the Phase II design under the approved CUP. After the adoption of the *2035 Plan*, the County Commission approved a text amendment eliminating the use of the Land Evaluation Site Assessment (LESA) system and modifying the CUP process so that it could not be used for future residential development projects in the Rural Zoning District.

The *2035 Plan* was the first Jefferson County Comprehensive Plan to include a Future Land Use Guide, which is intended to be a tool to provide a visual definition of future growth and areas where poteutial owner initiated zoning map amendments (rezoning requests) might occur within the timeframe of the *2023 Plan.* The *2035 Plan* states that *"by creating a Future Land Use Map/Guide, a community provides clarification for property owners related to their potential development on their site. The review of all zoning map amendment requests shall include consideration of all of the recommendations created as part of this Plan. All zoning map amendments shall be in conformance with the Future Land Use Guide and the recommendations of this Plan.".*

Urban Level Development Recommendations - (Page 30, *Envision Jefferson 2035 Comprehensive Plan*)

Division (2) of the table listed above states, *"Recognize that the County Commission has the authority to make land use decisions including Zoning Map Amendments based upon the finding of consistency with the Future land Use Guide and the recommendations of this Plan; the County commission may determine that petitions or decisions for zoning map amendments are consistent with the Comprehensive Plan if any of the following conditions are met after the entire Plan is taken into consideration:*

a. *Economic Well-Being of the County; or*
b. *Error or Under Scrutinized Property on the Future land Use Guide; or*
c. *Change in Neighborhood; or*
d. *Any Other Circumstance that the Governing Body determines should have been considered when drafting the Future Land Use Guide; and/or*
e. *Environmental impacts are considered."*

This request meets the following conditions:

a. **Economic Well Being** - Residential Land Use in Jefferson County has not met the comprehensive plans growth projections of 0.95% per year. The rate is 0.55% as of 2019. The lack of residential growth has impacted the strength of the local economy. While there are pockets of residential activity, the County is not benefiting from a robust residential economy. Expanding the potential unit count for Harvest Hills Subdivision, Phase II from 392 lots allowed under (R) Rural zoning, to the proposed 1,027 allowed under (RG) Residential Growth zoning, will greatly expand residential activity, and therefore the local economy.

b. **Future Land Use Guide -** Low Density Residential is identified as the appropriate use of the property by the comprehensive plan. The proposed Residential Growth zoning district is consistent with this recommended future land use.

Discuss any change(s) of transportation characteristics (i.e. type and frequency of traffic, adequacy of existing transportation routes), and neighborhood characteristics from when the original Ordinance was adopted.

The Original Zoning Ordinance was adopted on July 7, 1988. Changes in the immediate area of the properties include the following:

Schools - There are two (2) schools located within 2 miles of the property which did not exist at the time the original Ordinance was adopted: Wildwood Middle School and Driswood Elementary School.

Surrounding Development - The property is located in near proximity to Sam Michaels Park, which includes a community center, pavilions, dog park, outdoor amphitheater, and ball fields. The Aspen Green subdivision is located approximately 2 miles south along Flowing Springs Road (Rt. 17), and has a total build out of 205 lots. Potomac Towne Center is located 3.5 miles from the property and did not exist when the original Ordinance was adopted. The previously approved Daniel Subdivision and Breckenridge East Subdivision have each voided their plans (expired). These developments were located south of the subject parcels along Flowing Spring Road (Rt. 17) and Old Country Club Road respectively, before the intersection of Rt. 17 and Rt. 9.

Transportation - Route 9 was expanded to a 4-lane divided highway, providing a high-capacity road corridor between Jefferson County and Interstate 81. Harvest Hills Subdivision is within 4 miles of the

intersection between Flowing Springs Road and WV Route 9, and within 3.5 miles of the Route 9 signalized intersection at Potomac Towne Center.

An entrance permit from the West Virginia Division of Highways (WVDOH) will be needed for improvements to the connection of Elk Street to Flowing Springs Road (Rt. 17). Obtaining an entrance permit requires review by the WVDOH to ensure that safe and adequate access can be provided. It is anticipated that improvements to the intersection will be requested by WVDOH.

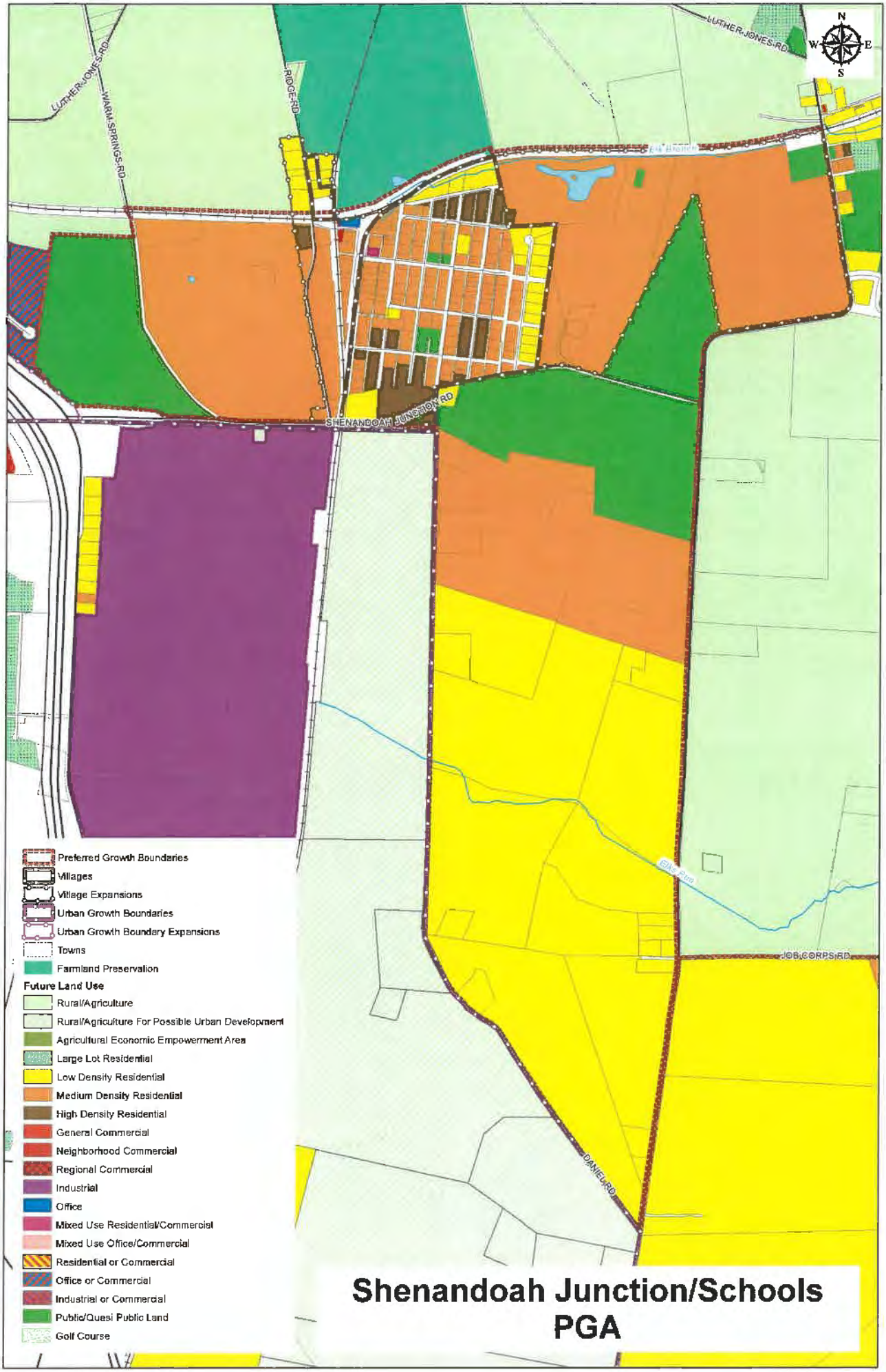
The following must be attached to this application:

A plat or sketch shall include the entire original parcel as it appeared on the date this Ordinance took effect. The property proposed for development shall be drawn to a reasonable scale (eg. 1" = 50', 1" = 100', or 1" = 200'). The sketch plan shall show, in simple form, the proposed layout of lots, parking areas, recreational areas, streets, building areas, and other features in relation to each other and to the tract boundaries. Contour lines, as shown on the appropriate U.S.G.S. Topographic Quadrangle Map or other data source approved by the Department, should be superimposed on the sketch plan. The source of all contour lines shall be noted on the plan. Natural features such as woods, watercourses, prominent rock outcroppings, sinkholes, and quarries shall be delineated.

The required sketch is attached for reference: Harvest Hills Subdivision, Phase II - Concept Plan. Please see the comprehensive list of attachments below.

Attachments:

- Harvest Hills Subdivision, Phase II - Concept Plan
- Approved Final Plat of Harvest Hills Subdivision Phase II Section 1 - Plat Book 25, Page 198
- Parcel 12 Deed - Deed Book 1163, Page 351
- Parcel 13 Deed - Deed Book 1173, Page 85
- 2035 Comprehensive Plan, Appendix F- Shenandoah Junction PGA/School Based Growth Area
- 2035 Comprehensive Plan, Appendix F- Residential Preferred Growth Area


N
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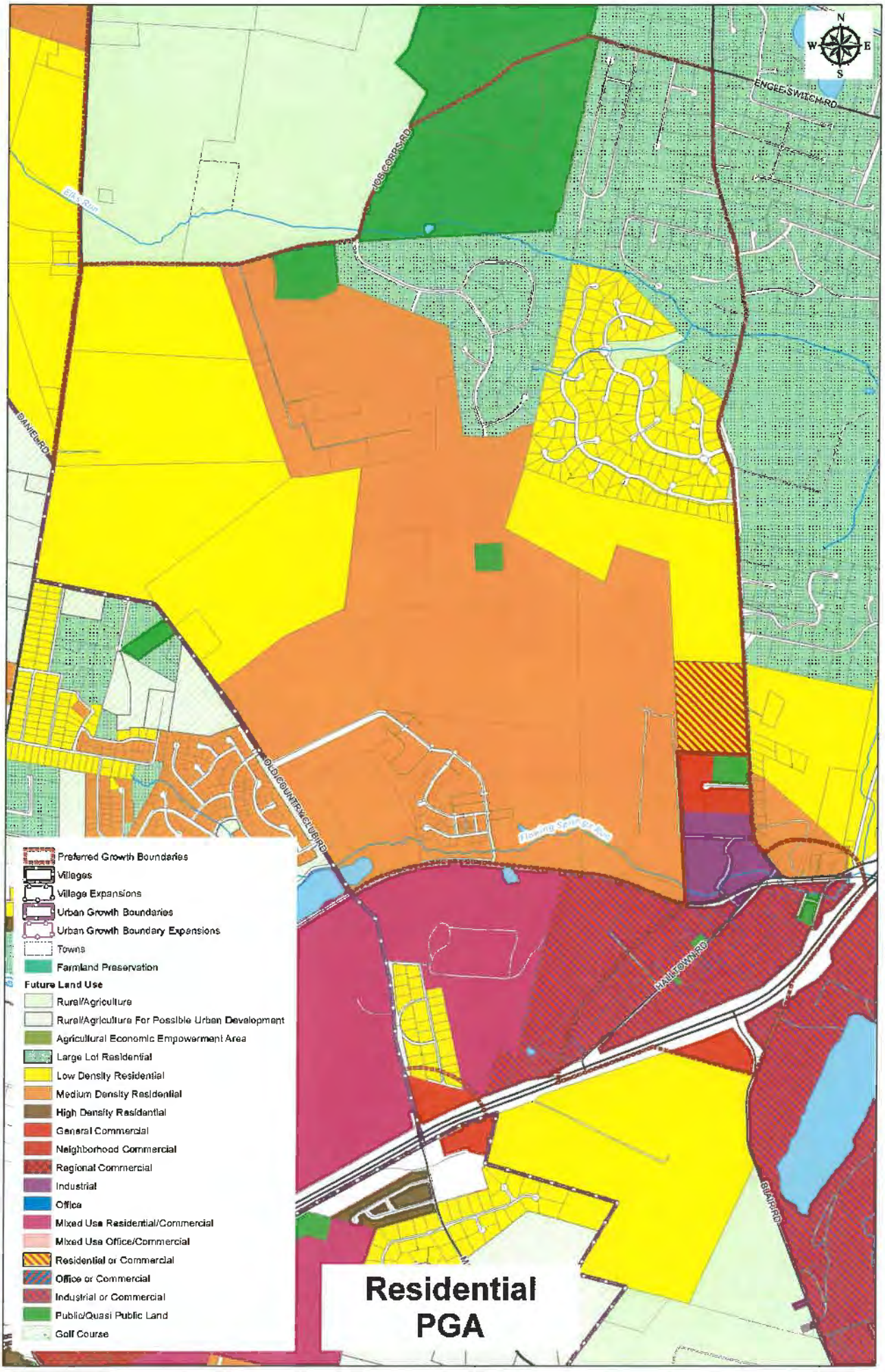
LUTHER JONES RD
WARM SPRINGS RD
RIDGE RD
SHENANDOAH JUNCTION RD
JOB CORPS RD
DANIELS RD
Preferred Growth Boundaries
Villages
Village Expansions
Urban Growth Boundaries
Urban Growth Boundary Expansions
Towns
Farmland Preservation
Future Land Use
Rural/Agriculture
Rural/Agriculture For Possible Urban Development
Agricultural Economic Empowerment Area
Large Lot Residential
Low Density Residential
Medium Density Residential
High Density Residential
General Commercial
Neighborhood Commercial
Regional Commercial
Industrial
Office
Mixed Use Residential/Commercial
Mixed Use Office/Commercial
Residential or Commercial
Office or Commercial
Industrial or Commercial
Public/Quasi Public Land
Golf Course
Shenandoah Junction/Schools
PGA


N
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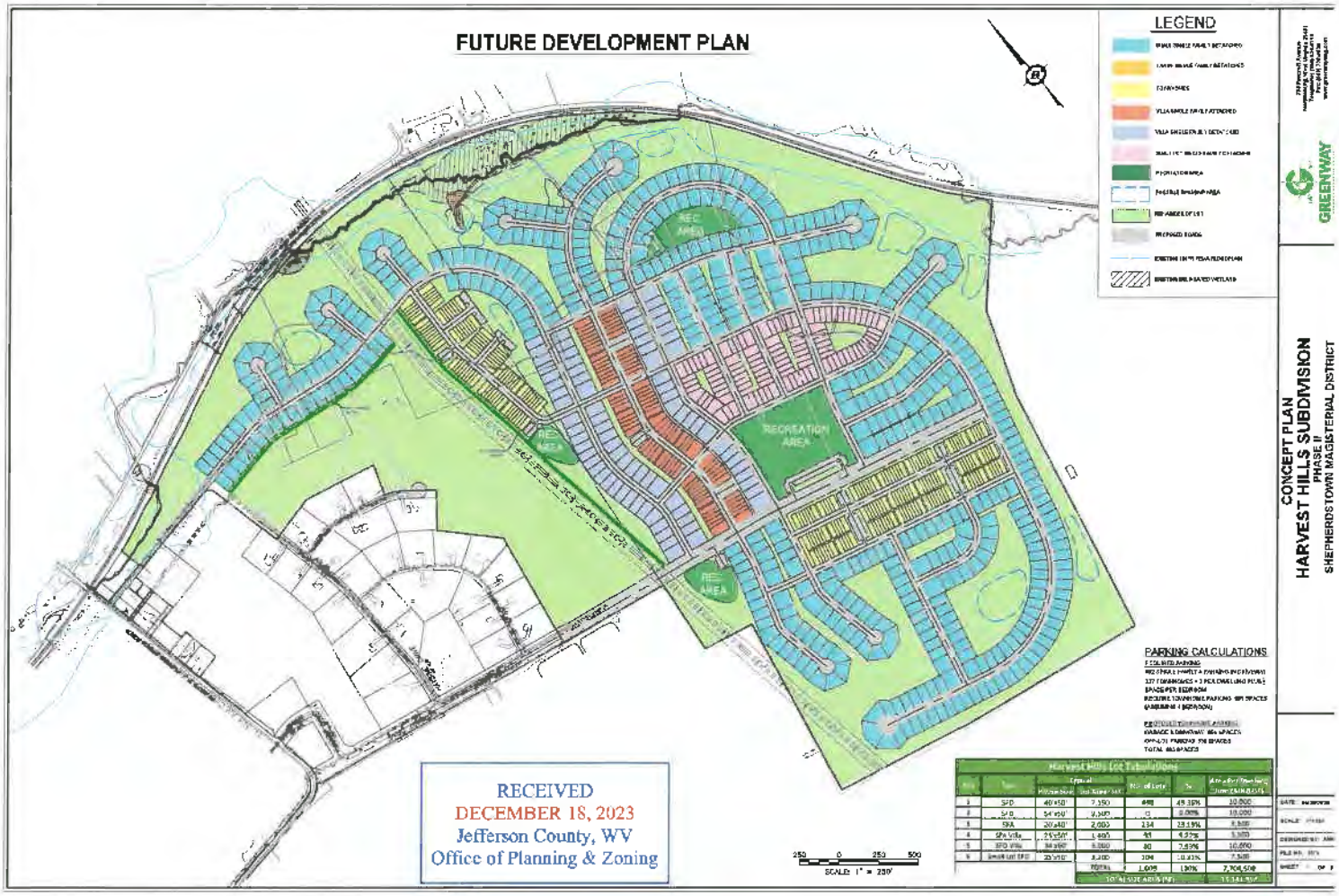
ENGLE SWITCH RD
108 CORPS RD
BANIEL RD
GOLDEN GUNTER VALLEY RD
HALLSTOWN RD
BLAIR RD
Preferred Growth Boundaries
Villages
Village Expansions
Urban Growth Boundaries
Urban Growth Boundary Expansions
Towns
Farmland Preservation
Future Land Use
Rural/Agriculture
Rural/Agriculture For Possible Urban Development
Agricultural Economic Empowerment Area
Large Lot Residential
Low Density Residential
Medium Density Residential
High Density Residential
General Commercial
Neighborhood Commercial
Regional Commercial
Industrial
Office
Mixed Use Residential/Commercial
Mixed Use Office/Commercial
Residential or Commercial
Office or Commercial
Industrial or Commercial
Public/Quasi Public Land
Golf Course
Residential
PGA


FUTURE DEVELOPMENT PLAN
LEGEND
REC AREA
RECREATION AREA
PARKING CALCULATIONS
RECEIVED
DECEMBER 18, 2023
Jefferson County, WV
Office of Planning & Zoning
SCALE: 1" = 250'
CONCEPT PLAN
HARVEST HILLS SUBDIVISION
PHASE II
SHEPHERDSTOWN MAGISTERIAL DISTRICT
GREENWAY

NOTES:

1. THE PROPERTIES DELINEATED ON THIS PLAT ARE LOCATED ON JEFFERSON COUNTY, SHEPHERDSTOWN DISTRICT TAX MAP 24 AS PARCEL 12 AND MAP 24A AS PARCELS 16 AND 17, AND ARE ZONED RURAL DISTRICT.

2. BOUNDARY INFORMATION IS BASED ON A COMPILATION OF EXISTING LAND RECORDS, A PLAT OF RESURVEY BY APPALACHIAN SURVEYS OF WEST VIRGINIA, LLC DATED AUGUST 25, 2002 RECORDED IN PLAT BOOK 32 AT PAGE 2; A PLAT OF RESURVEY BY LOMBARDO/APPALACHIAN SURVEYS DATED JANUARY 08, 2004 RECORDED IN DEED BOOK 1008 AT PAGE 824 (NORTHERN PART OF PARCEL 12); A PLAT OF RESURVEY BY DOWDERY & DAVIS, LLC DATED JUNE 5, 2008 AND RECORDED IN DEED BOOK 2053 AT PAGE 75 AND A DEED PLAT BOUNDARY CHECK SURVEY.

3. THE PROPERTIES SHOWN HEREON ARE CURRENTLY IN THE NAME OF ARCADIA DEVELOPMENT CO. AND WERE ACQUIRED FROM WILLIAM P. HENDERSON BY DEED DATED MARCH 23, 2000 RECORDED IN DEED BOOK 535 AT PAGE 804 AND DEED DATED FEBRUARY 12, 2004 RECORDED IN DEED BOOK 985 AT PAGE 353 AND FROM WILLIAM P. HENDERSON AND GINGER L. HENDERSON BY DEED OF GIFT DATED NOVEMBER 2, 2006 RECORDED IN DEED BOOK 1029 AT PAGE 458 ALL AMONG THE LAND RECORDS OF JEFFERSON COUNTY, WEST VIRGINIA.

4. THE PROPERTY SHOWN HEREON IS LOCATED IN FLOOD ZONE "C", AREAS LOCATED OUTSIDE THE 100-YEAR FLOODPLAIN, ACCORDING TO COMMUNITY PANEL NUMBER 540059 0035 C OF THE FEMA FLOOD INSURANCE RATE MAP FOR JEFFERSON COUNTY, WEST VIRGINIA DATE MARCH 14, 2001

5. PROPERTY CORNERS TO BE SET ARE 18" x 5/8" REBAR UNLESS OTHERWISE NOTED HEREON

6. ALL KNOWN EXISTING AND PROPOSED EASEMENTS AND RIGHTS-OF-WAY ARE SHOWN HEREON. NO FUTURE EASEMENTS OR RIGHTS-OF-WAY ARE PROPOSED.

7. UNLESS OTHERWISE NOTED, BUILDING SETBACKS ARE AS FOLLOWS:
   FRONT: 25 FEET
   SIDE: 12 FEET
   REAR: 20 FEET

8. A BLANKET EASEMENT SHALL BE GIVEN TO THE APPROPRIATE PUBLIC SERVICE DISTRICT AND JEFFERSON UTILITIES, INC. IN ALL SUBDIVISION RIGHTS-OF-WAY FOR THE PURPOSE OF CONSTRUCTING FUTURE WATER AND/OR SEWER LINES AND FACILITIES.

9. A HOMEOWNER'S ASSOCIATION MUST BE ESTABLISHED WITHOUT DELAY AS SOON AS SOLD OF THE PREMISES ARE SOLD. MEMBERSHIP BY THE ASSOCIATION IS MANDATORY FOR ALL PROPERTY OWNERS WITHIN THE SUBDIVISION. DEDICATE ALL COMMON LAND (PARK BASIN, ROADS, RIGHT-OF-WAYS, ETC.) TO THE HOMEOWNER'S ASSOCIATION

10. A COMMON INTEREST OWNERSHIP AGREEMENT MUST BE ESTABLISHED TO PROVIDE FOR THE MAINTENANCE OF COMMONLY-OWNED LAND, INCLUDING, BUT NOT LIMITED TO THE PRIVATE ROAD SYSTEM WITHIN THE SUBDIVISION. THIS AGREEMENT MUST BE DEVELOPED IN ACCORDANCE WITH THE UNIFORM COMMON INTEREST OWNERSHIP ACT OF WEST VIRGINIA.

11. ONCE A HOMEOWNER'S ASSOCIATION IS FORMED THEY SHALL PETITION THE COUNTY COMMISSION TO ADOPT A LEASH LAW.

12. THIS SITE DOES NOT FALL UNDER THE HILLSIDE DEVELOPMENT REGULATIONS.

13. MODEL HOMES WITH A STAFFED SALES OFFICE FOR SALES EXCLUSIVELY WITHIN THE RESIDENTIAL SUBDIVISION THAT THEY ARE LOCATED ARE PERMITTED PROVIDED THAT THEY ARE CONTAINED ON THE FIRST LOT ON EITHER OR BOTH SIDES OF ANY ROAD / RIGHT-OF-WAY THAT ENTERS THE SUBDIVISION. LOTS 58 AND 119 ARE DESIGNATED AS MODEL HOME LOTS.

14. LOT ACCESS LIMITED TO INTERIOR ROADS ONLY.

15. ALL EXISTING AND FUTURE OPEN SPACE PARCELS LOCATED WITHIN THE COMMUNITY AS DESCRIBED IN THE DECLARATION ARE COMMON ELEMENTS FOR THE PURPOSES OF WALKWAYS AND EGRESS. ALL OTHER COMMON ELEMENTS FOR ALLOCATED INTERESTS INCLUDE THE IMPROVEMENTS WITHIN THE EXISTING AND FUTURE OPEN SPACE PARCELS, EXCEPT THOSE IMPROVEMENTS, SUCH AS SERVICE UTILITIES, WHICH ARE OWNED, OPERATED AND MAINTAINED BY GOVERNMENTAL AUTHORITIES OR UTILITY COMPANIES AND ANY IMPROVEMENTS DESIGNATED AS LIMITED COMMON ELEMENTS. THE COMMON ELEMENTS WITHIN THESE AREAS MAY BE MORE SPECIFICALLY DEFINED IN ARTICLE 3 OF THE DECLARATION.

16. NO DRIVEWAY CULVERTS ARE TO BE 15" DIAMETER CMP OR EQUIVALENT

AREA TABULATION:

LOTS (34)	534,361 SQ. FT.	12.38202 ACRES
RIGHT-OF-WAY	158,898 SQ. FT.	3.64316 ACRES
RESIDUE PARCEL	2,381,572 SQ. FT.	54.67750 ACRES
TOTAL AREA	3,079,830 SQ. FT.	84.70268 ACRES

RESIDENTIAL AREA 12.38202 ACRES
OF UNITS 34
DENSITY 2.61 LOTS PER ACRE

REQUIRED PARK AREA(4%): 21.8674 ACRES DEDICATED FOR PUBLIC OR SEMI PUBLIC USE AS LOT 3, PHASE 1, SECTION 1, WHICH IS GREATER THAN 4% OF THE OVERALL SUBDIVISION

VICINITY MAP
SCALE: 1" = 1000'

TAX MAP 24, PARCEL 12
(FUTURE DEVELOPMENTS)

LEGEND:

- ○ IPF = IRON PIPE FOUND
- ○ IR = IRON RE-BAR FOUND
- ■ = 4"x4" CONCRETE MON. TO BE
- ○ = 18"x5/8" RE-BAR TO BE SET

OWNER/DEVELOPER:

ARCADIA DEVELOPMENT CO.
117 W. BAILEY LANE
PURCELLVILLE, VA 20132
(540) 751 0321

LIST OF APPROVALS:

WV DEPARTMENT OF HIGHWAYS
PERMIT # 5-99-0392 (ORIGINAL)
DATE: ADDENDUM 11-01-2007
PERMIT # 5-67-1062 (SIMULTANEOUS SEWAGE)
DATE: 11-16-2007

WV DEPARTMENT OF HEALTH
PERMIT # 17,598 (WATER)
DATE: 07-26-2007
PERMIT # 17,597 (SEWER)
DATE: 07-26-2007
PERMIT # 12,731 (SEWER ADDENDUM)
DATE: 11-15-2007

ACCEPTANCE STATEMENT:

THE OWNER AND DEVELOPER IN SIGNING THIS PLAT AGREES TO ABIDE BY ALL CONDITIONS, REMARKS, AND SPECIFICATIONS PROVIDED HEREON.

ARCADIA DEVELOPMENT CO. DATE: 12-10-08

APPROVED BY:

OFFICIAL SEAL

Appeared final plat

PLANNING COMMISSION DATE: 2/24/10

SURVEYOR'S CERTIFICATE:

I, KEVIN C. NELSON, A PROFESSIONAL SURVEYOR IN THE STATE OF WEST VIRGINIA HEREBY CERTIFY THAT THIS PLAT IS ACCURATE, COMPLETE, AND MEETS OR EXCEEDS MINIMUM STANDARDS FOR TAX, STATE AND/OR COUNTY REQUIREMENTS APPLICABLE ON THIS DATE. THIS SUBDIVISION COMPLIES WITH THE JEFFERSON COUNTY SUBDIVISION REGULATIONS, SECTION 8.1.C.8 FOR A LOT/SITE WITHIN A FEMA "C" ZONE. I FURTHER CERTIFY THAT THIS PLAT CONTAINS ALL THE INFORMATION REQUIRED BY AND ACCORDANCE WITH CHAPTER 36B, ARTICLE 2, SECTION 105 OF THE UNIFORM COMMON INTEREST OWNERSHIP ACT OF THE WEST VIRGINIA STATE CODE.

No. 2064 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

KEVIN C. NELSON, P.S. No. 2064 DATE: 2/19/10

FINAL PLAT
PHASE II, SECTION 1
HARVEST HILLS SUBDIVISION

TM 24, PARCEL 12 AND TM 24A, PARCELS 16 & 17
SHEPHERDSTOWN DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA
SCALE: AS NOTED JUNE 16, 2008
REVISED: NOVEMBER 20, 200

William H. Gardner Associates, Inc.
CIVIL ENGINEERING · SURVEYING · LAND PLANNING · LANDSCAPE ARCHITECTURE · SITE DESIGN CONSULTING
301 N. Mildred Street, Suite 1
Charles Town, West Virginia 25414
Phone: (304) 725-8478 Fax: (304) 728-0117 www.whgardner.com

DRWG FILE: 01-2730-0301 JOB #: 01-2730-0301.DWG SHEET 1 OF

JEFFERSON COUNTY
DEPARTMENT OF PLANNING, ZONING & ENGINEERING
CONDITIONAL USE PERMIT
HARVEST HILLS SUBDIVISION #Z06-04

This is to certify that effective May 22, 2001, the property described as:

Developer/Owner:	William F. Henderson, owner P. O. Box 60 Shenandoah Junction, West Virginia 25442
Telephone Number:	(304)-876-0602
Developer/Owner:	Arcadia Building Company, developer P. O. Box 1728 Leesburg, Virginia 20177
Telephone Number:	(703)-771-2626
Tax Map Reference:	Shepherdstown District, Map 24, Parcels 12 & 13
Deed Book Reference:	Deed Book 937, Page 239
Subdivision Name:	Harvest Hills
Zoning District:	Rural

has been granted permission to use said property in the following way: 392 single family lots; 23 acre school site; Sheffield's Trailer Station relocation; 2.00 ac+ church site; and, preservation of 141 acres of open space.

CONDITIONAL USE(S):

1. Cooperation with nonprofit groups to preserve the historic train station with the permission of the record owner of the property;
2. Execute a bond to fix the curve on Route 17 (Blowing Springs Road) if title is obtained by the West Virginia Department of Highways to do so;
3. No street lighting;
4. Disclose to potential buyers the intensity of the train traffic;
5. Build a fence between the development and the railroad tracks;
6. Discuss and encourage telecommunications link-ups with utility companies;
7. Inform potential buyers of farming activities in the area (i.e. smells, noises, animals, equipment) and the farmers right to farm;
8. Prepare a traffic study;
9. Install a traffic light at the intersection of Route 17 (Blowing Springs Road) and Route 1372 (Melvin Road) if warranted by the West Virginia Department of Highways;
10. Provide quality control of storm water management to County standards;
11. Provide buffers to lessen the impacts of the development on the Sheffield's historic area;
12. Density not being increased by more than what is currently proposed;
13. Property not being rezoned that is not owned by the owner/developer;
14. Provide a fence between the development and Sulfur Mines property;

JEFFERSON COUNTY
DEPARTMENT OF PLANNING, ZONING & ENGINEERING
CONDITIONAL USE PERMIT
HARVEST HILLS SUBDIVISION - #Z06-04
PAGE TWO

15. Provide an economic study to determine the cost of services versus tax collections;
16. Not locating a water tank on the property;
17. Give the land surrounded for the School Board to the Jefferson County Parks and Recreation Commission or other sports organization if not used by the School Board;
18. Provide a historic and archeological study of the property;
19. Any further change in use or expansion proceeding through the Jefferson County Department of Planning, Zoning and Engineering to update this certificate; and, all other applicable County regulations being followed.

In the event construction is not commenced by November 22, 2002, said permission will expire unless an extension is granted. Extensions must be formally requested of the Jefferson County Department of Planning, Zoning and Engineering prior to the expiration date.

This certificate in no way relieves the owner, applicant or user from any requirements of the Jefferson County Ordinances unless appropriate variances are granted by the appropriate County authority.

Zoning Administrator — Date 5/22/01 (orig.) — reissued & amended on 11/13/04 PJR

Department of Planning, Zoning & Engineering Seal:

Approved Final Plat
Jennifer M. Brockma
Director of Planning and Zoning
2/24/10

OFFICIAL SEAL

FINAL PLAT
PHASE II, SECTION 1
HARVEST HILLS

CURVE TABLE:

CURVE	ARC LENGTH	RADIUS	DELTA	TANGENT	CHORD	CHORD BEARING
C1	149.46'	447.71'	19°07'36"	75.43'	148.77'	N59°31'42"W
C2	78.57'	50.00'	90°01'45"	49.12'	70.38'	N50°36'57"W
C3	41.57'	947.71'	2°31'30"	20.95'	41.65'	N52°38'22"W
C4	107.58'	447.71'	13°46'00"	54.08'	107.34'	N62°12'26"W
C5	78.54'	50.00'	90°00'00"	50.00'	70.71'	S33°20'00"W
C6	35.09'	50.00'	40°12'40"	18.30'	34.38'	S58°13'46"W
C7	43.45'	60.00'	41°29'20"	23.20'	42.09'	S32°13'46"W
C8	78.54'	50.00'	90°00'00"	50.00'	70.71'	S56°39'54"E
C9	337.90'	375.00'	51°36'58"	175.28'	317.55'	N76°36'55"W
C10	2.08'	375.00'	0°19'04"	1.04'	2.08'	S78°28'38"W
C11	104.34'	375.00'	15°56'29"	52.51'	104.00'	S86°57'25"W
C12	104.01'	375.00'	15°53'30"	52.34'	103.68'	N72°27'35"W
C13	104.36'	375.00'	15°56'43"	52.51'	104.01'	N56°59'44"W
C14	13.13'	375.00'	2°00'21"	6.57'	13.13'	N52°34'07"W
C15	519.54'	375.00'	81°35'33"	304.16'	465.96'	N32°38'17"E
C16	153.17'	325.00'	27°31'01"	67.84'	151.74'	S63°19'52"E
C17	134.81'	325.00'	23°47'39"	68.80'	133.89'	S87°17'39"E
C18	139.00'	325.00'	24°30'18"	70.56'	137.94'	N69°21'29"E
C19	92.20'	325.00'	16°15'50"	46.44'	91.90'	N44°58'25"E
C20	162.60'	425.00'	21°55'15"	82.31'	161.61'	S47°45'38"W

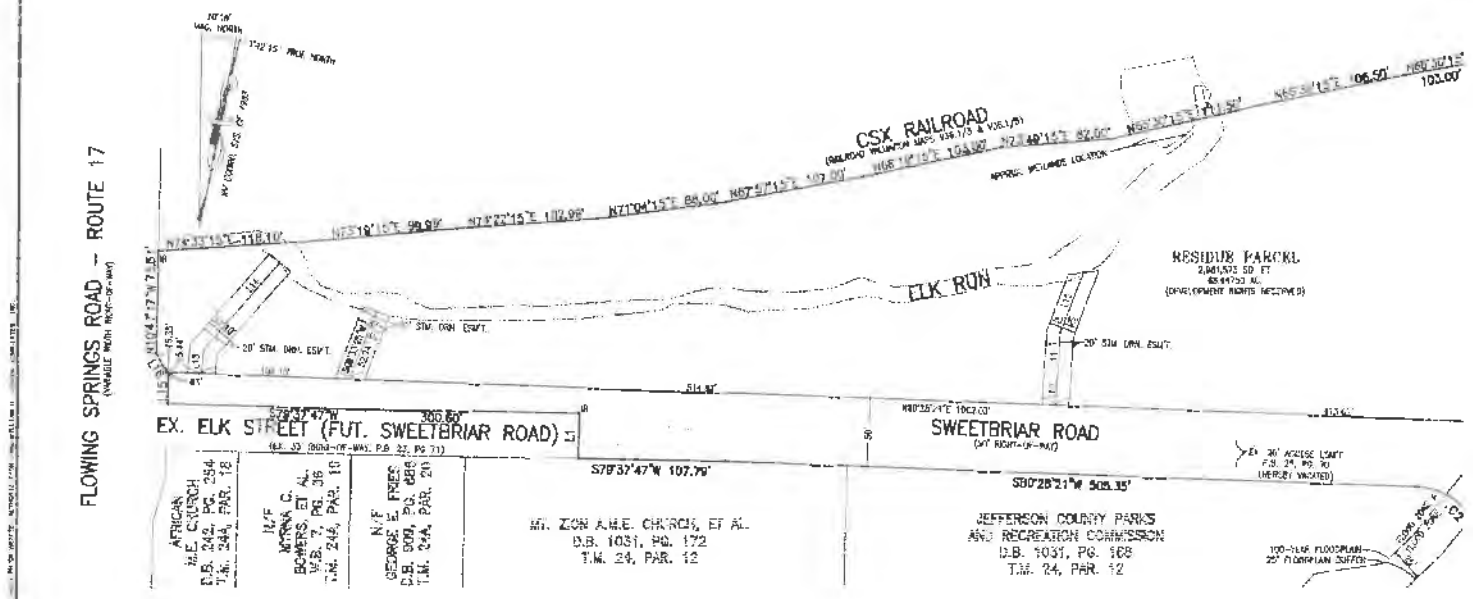
CURVE TABLE:

CURVE	ARC LENGTH	RADIUS	DELTA	TANGENT	CHORD	CHORD BEARING
C21	77.62'	425.00'	10°57'54"	38.93'	77.51'	S42°04'50"W
C22	84.98'	425.00'	11°27'24"	42.63'	84.84'	S53°02'03"W
C23	107.69'	375.00'	16°26'16"	54.17'	107.32'	S45°03'30"W
C24	599.42'	375.00'	91°35'33"	385.87'	537.65'	N62°38'17"E
C25	67.76'	375.00'	10°21'06"	33.97'	67.66'	N42°01'05"E
C26	101.03'	375.00'	15°26'06"	50.82'	100.72'	N54°54'43"E
C27	80.00'	375.00'	12°13'23"	40.15'	79.85'	N68°44'33"E
C28	80.00'	375.00'	12°13'23"	40.15'	79.85'	N80°57'52"E
C29	82.80'	375.00'	12°38'27"	41.59'	82.65'	S87°49'43"E
C30	82.00'	375.00'	12°31'33"	41.15'	81.85'	S75°25'28"E
C31	84.00'	375.00'	12°50'04"	42.18'	83.83'	S62°03'38"E
C32	28.43'	375.00'	4°04'16"	14.22'	28.42'	S54°58'46"E
C33	264.12'	325.00'	46°33'58"	139.89'	257.01'	N76°39'55"E
C34	0.92'	325.00'	0°09'39"	0.46'	0.92'	S51°48'46"E
C35	146.83'	325.00'	25°53'57"	74.58'	145.58'	S64°20'04"E
C36	155.27'	325.00'	27°22'43"	79.06'	153.78'	S89°19'24"E
C37	3.32'	325.00'	0°35'08"	1.66'	3.32'	N76°27'59"E
C38	79.54'	50.00'	91°09'09"	51.00'	71.41'	S53°20'35"W
C39	156.61'	430.00'	20°52'09"	79.16'	155.75'	S61°47'43"E
C40	6.42'	375.00'	1°02'25"	3.21'	6.42'	N36°45'24"E
C41	100.77'	375.00'	15°23'49"	50.69'	100.47'	N44°32'29"E

LINE TABLE

LINE	BEARING	DISTANCE
L1	N10°32'12"W	33.50'
L2	S22°49'10"E	19.80'
L3	S33°48'40"W	2.84'
L4	N68°31'28"W	20.00'
L5	N57°57'32"W	52.92'
L6	N80°51'53"W	79.32'
L7	N38°02'30"E	35.20'
L8	S77°51'42"E	37.84'
L9	S27°30'25"W	3.76'
L10	S09°51'39"E	15.06'
L11	S07°15'37"E	58.50'
L12	S07°11'05"W	47.27'
L13	S07°14'03"E	17.32'
L14	S79°11'21"W	85.24'
L15	N10°48'14"W	21.45'
L16	N42°47'00"W	17.18'

Phase II
LP06-#06-01 2006-0031



LEGEND:

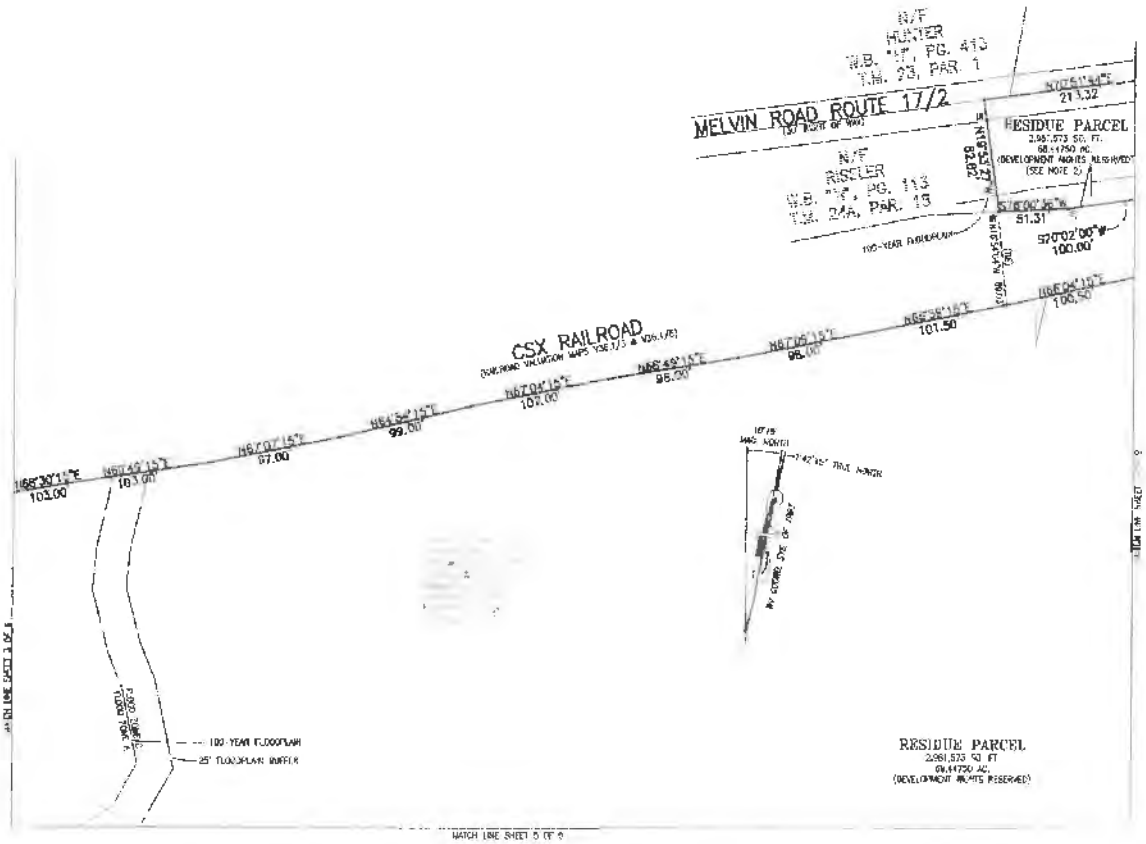
- ○ IPF = IRON PIPE FOUND
- ○ IN = IRON RE-BAR FOUND
- ■ = 4"x4" CONCRETE MON. TO BE SET
- ○ = 1/2"x30" RE-BAR TO BE SET

Approved final plat
Leslie M. Beckwith
Director of Planning and Zoning
2-24-16

FINAL PLAT
OF
PHASE II, SECTION 1
HARVEST HILLS
T.M. 24, PARCEL 19 AND T.M. 24A, PARCELS 16
SHEPHERDSTOWN DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA
SCALE 1"=50'
JUNE 30, 2005
REVISED: NOVEMBER 20, 2015

GRAPHIC SCALE: 1"=50'

William M. Hopkins Associates, Inc.
CIVIL ENGINEERING • SURVEY • LAND PLANNING • LANDSCAPE ARCHITECTURE • SITE FEASIBILITY CONSULTING
301 N. Mildred Street, Suite 1
Charles Town, West Virginia 25414
Phone: (304) 725-8456 Fax: (304) 725-0117



LEGEND:

- ○ IPS = IRON PIPE SET
- ○ IF = IRON REBAR FOUND
- ■ = 4"x4" CONCRETE MON. TO BE SET
- = 18"x5/8" RE-BAR TO BE SET

OFFICIAL SEAL

Approved Final Plat
Jennifer M. Buckner/asp
Director of Planning & Zoning
5-24-10

FINAL PLAT
OF
PHASE II, SECTION 1
HARVEST HILLS
TM 24, PARCEL 12 AND TM 24A, PARCELS 16 & 17
SHANNONDALE DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA
SCALE: 1"=50'
JUNE 30, 2008
REVISED NOVEMBER 10,

50' 25' 0 50' 100' 150'
GRAPHIC SCALE: 1"=50'

William H. Gordon Associates, Inc.
CIVIL ENGINEERING · SURVEYING · LAND PLANNING · LANDSCAPE ARCHITECTURE · SITE SECURITY CONSULTING
301 N. Mildred Street, Suite 1
Ranson Town, West Virginia 25414
Phone: (304) 725-8455 Fax: (304) 725-0151 e-mail:

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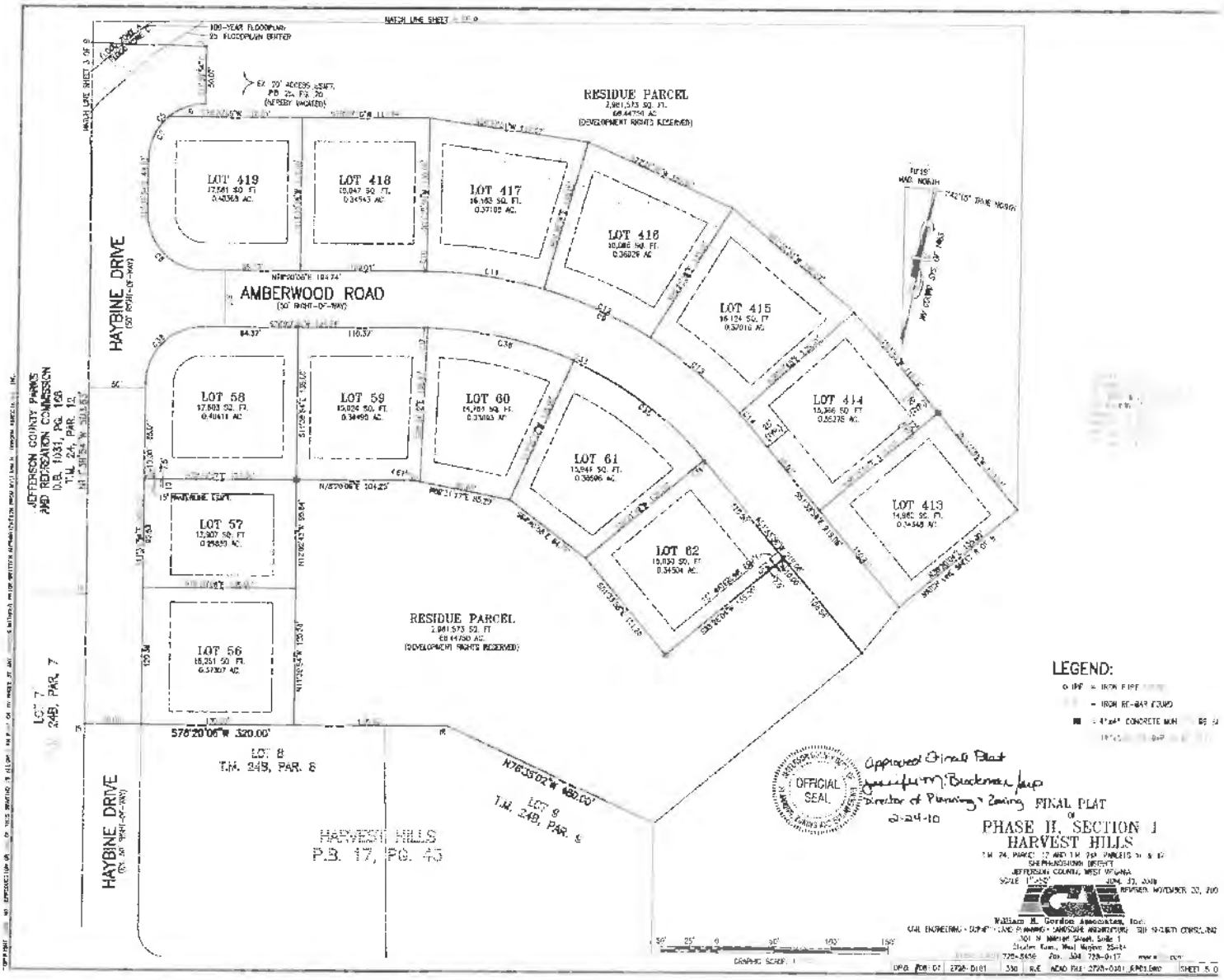
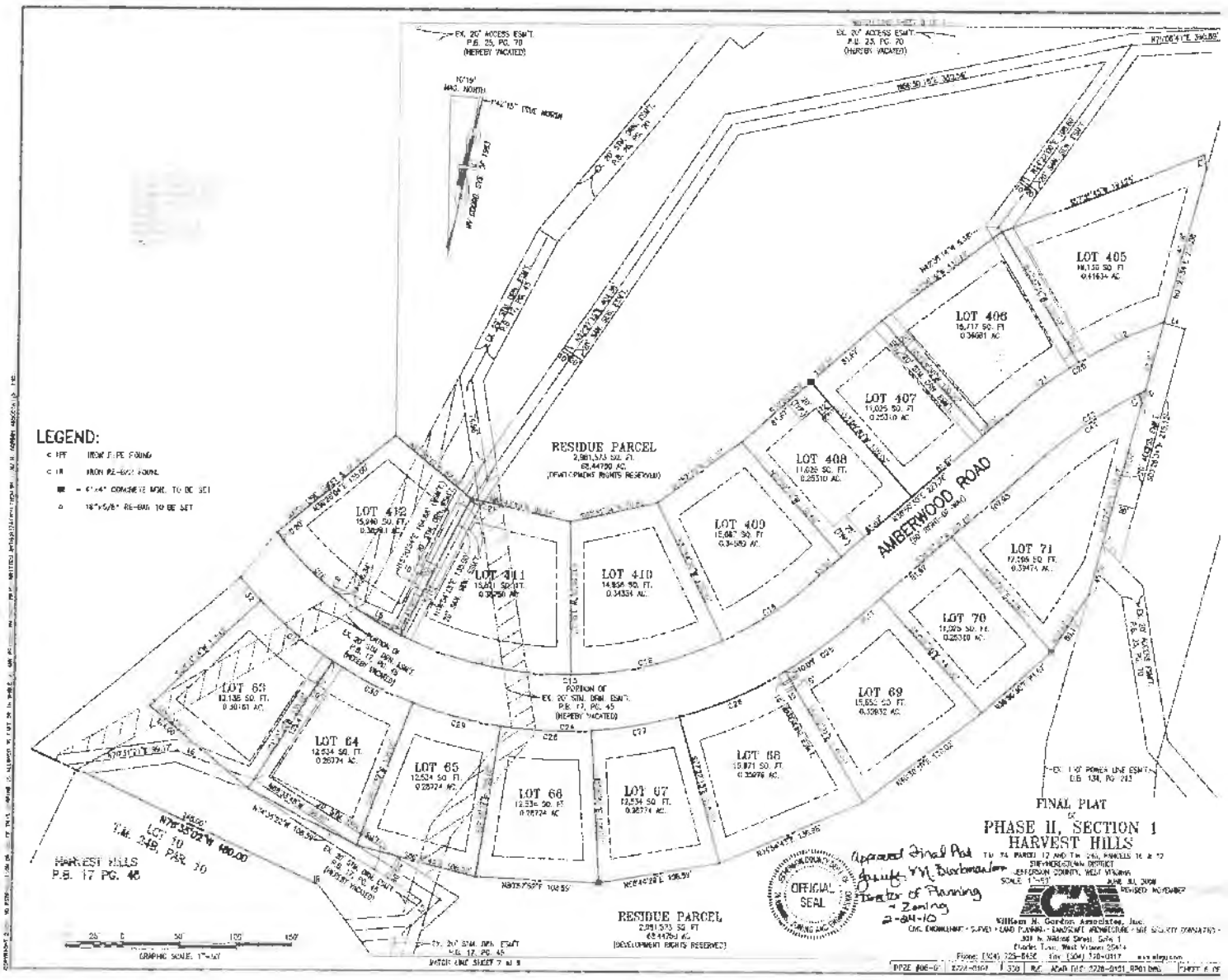
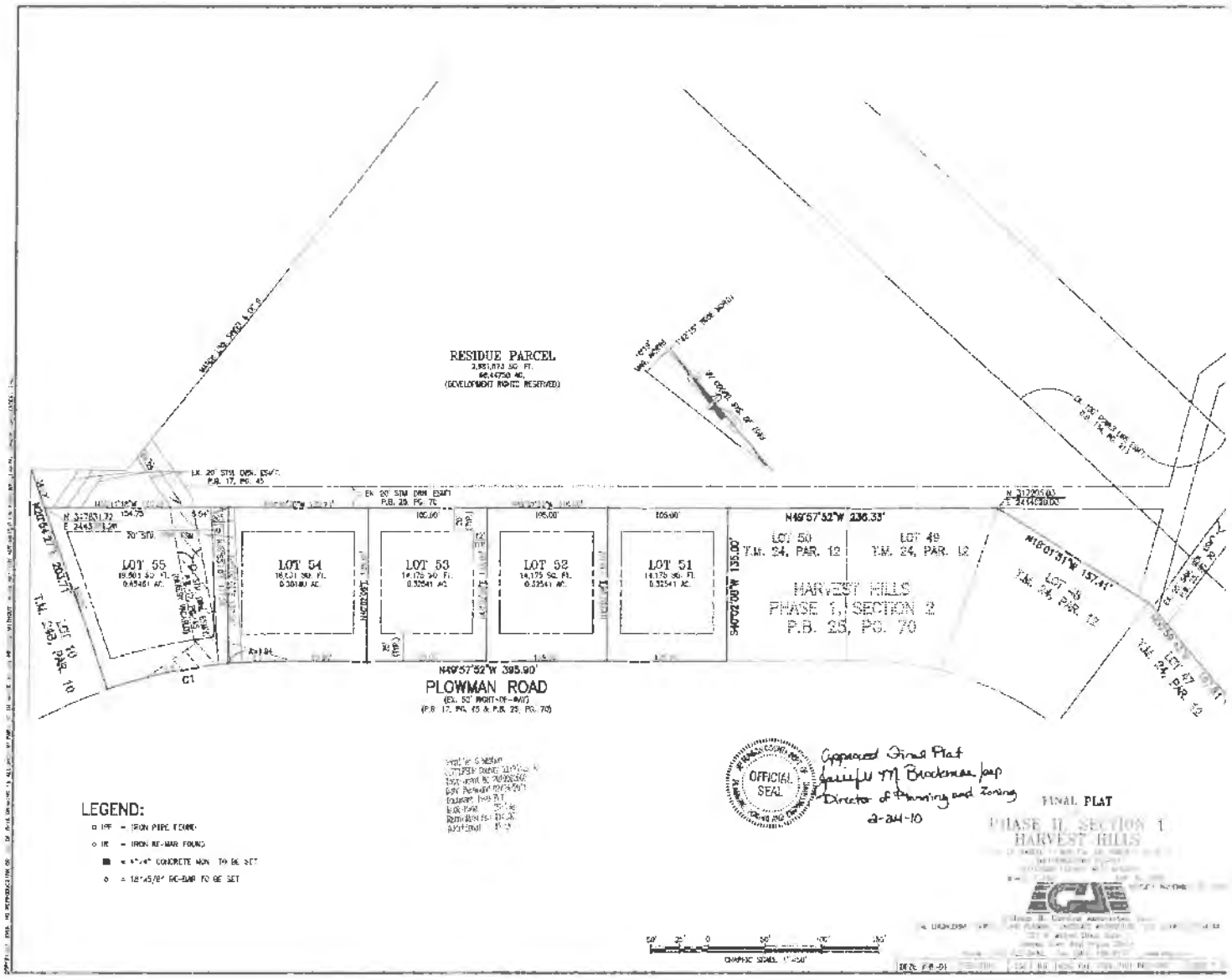
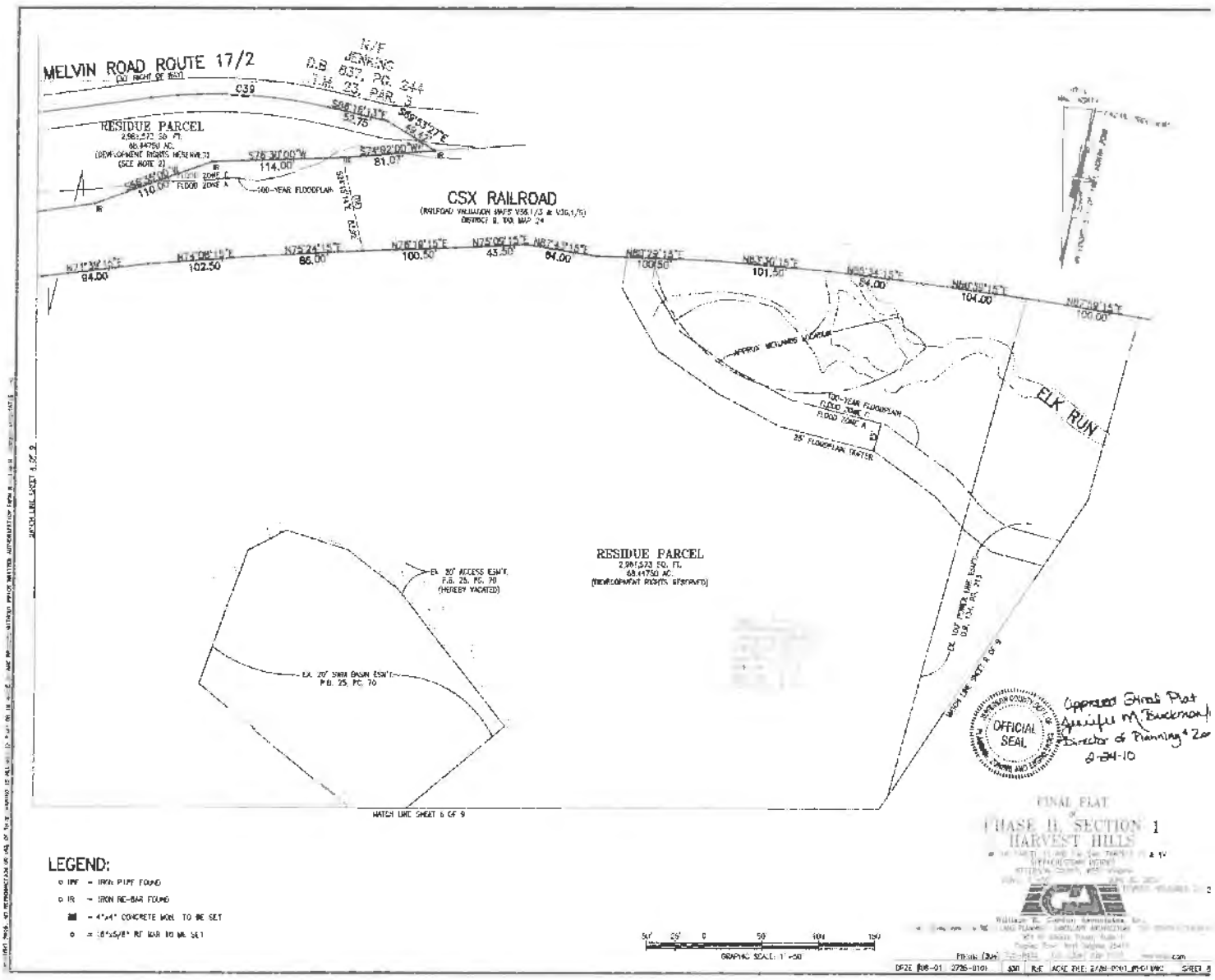
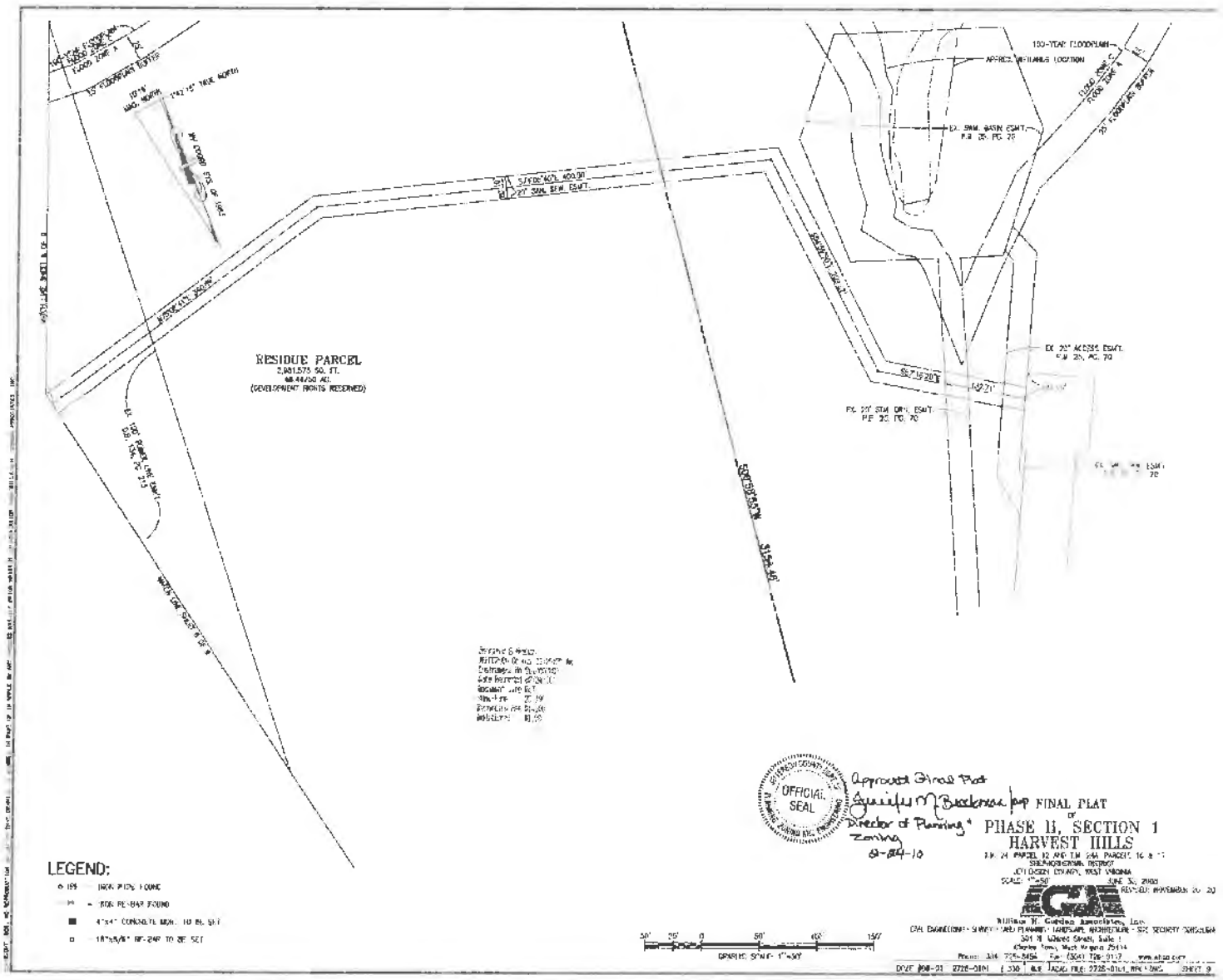

RESIDUE PARCEL
2,981,573 SQ. FT.
68.44750 AC.
(DEVELOPMENT RIGHTS RESERVED)
LOT 419
17,561 SQ. FT.
0.40308 AC.
LOT 418
19,047 SQ. FT.
0.34543 AC.
LOT 417
16,163 SQ. FT.
0.37102 AC.
LOT 416
10,086 SQ. FT.
0.36029 AC.
LOT 415
16,124 SQ. FT.
0.37018 AC.
LOT 414
15,366 SQ. FT.
0.35278 AC.
LOT 413
14,962 SQ. FT.
0.34348 AC.
LOT 62
15,030 SQ. FT.
0.34504 AC.
LOT 61
13,944 SQ. FT.
0.32006 AC.
LOT 60
15,701 SQ. FT.
0.36053 AC.
LOT 59
15,024 SQ. FT.
0.34490 AC.
LOT 58
17,893 SQ. FT.
0.41071 AC.
LOT 57
12,907 SQ. FT.
0.29629 AC.
LOT 56
16,251 SQ. FT.
0.37307 AC.
AMBERWOOD ROAD
(50' RIGHT-OF-WAY)
HAYBINE DRIVE
(50' RIGHT-OF-WAY)
JEFFERSON COUNTY PARKS
AND RECREATION COMMISSION
D.B. 1031, PG. 168
T.M. 24, PAR. 12
LOT 7
24B, PAR. 7
S78°20'06"W 320.00'
LOT 8
T.M. 24B, PAR. 8
N76°35'02"W 450.00'
LOT 9
T.M. 24B, PAR. 6
HARVEST HILLS
P.B. 17, PG. 45
LEGEND:
Approved Final Plat
Director of Planning & Zoning
3-24-10
FINAL PLAT
OF
PHASE II, SECTION 1
HARVEST HILLS
William H. Gordon Associates, Inc.


LEGEND:
RESIDUE PARCEL
2,981,573 SQ. FT.
68.44780 AC.
(DEVELOPMENT RIGHTS RESERVED)
AMBERWOOD ROAD
LOT 405
LOT 406
LOT 407
LOT 408
LOT 409
LOT 410
LOT 411
LOT 412
LOT 63
LOT 64
LOT 65
LOT 66
LOT 67
LOT 68
LOT 69
LOT 70
LOT 71
HARVEST HILLS
P.B. 17 PG. 46
T.M. 24B, PAR. 30
RESIDUE PARCEL
2,951,573 SQ. FT.
68.44780 AC.
(DEVELOPMENT RIGHTS RESERVED)
OFFICIAL SEAL
Approved Final Plat
Director of Planning
+ Zoning
2-24-10
FINAL PLAT
OF
PHASE II, SECTION 1
HARVEST HILLS
William H. Gordon Associates, Inc.


RESIDUE PARCEL
2,851,073 SQ. FT.
65.44750 AC.
(DEVELOPMENT RIGHTS RESERVED)
EX. 20' STM. DRN. ESM'T.
P.B. 17, PG. 45
EX. 20' STM. DRN. ESM'T.
P.B. 23, PG. 75
LOT 55
LOT 54
LOT 53
LOT 52
LOT 51
LOT 50
T.M. 24, PAR. 12
LOT 49
T.M. 24, PAR. 12
HARVEST HILLS
PHASE 1, SECTION 2
P.B. 25, PG. 70
N49°57'52"W 236.33'
N49°57'52"W 395.90'
PLOWMAN ROAD
(EX. 50' RIGHT-OF-WAY)
(P.B. 17, PG. 45 & P.B. 23, PG. 70)
T.M. 24, PAR. 10
LOT 48
T.M. 24, PAR. 12
LOT 47
T.M. 24, PAR. 12
C1
LEGEND:
IPF = IRON PIPE FOUND
IR = IRON RE-BAR FOUND
= CONCRETE MON. TO BE SET
= 18"x5/8" RC-BAR TO BE SET
OFFICIAL SEAL
Approved Final Plat
Director of Planning and Zoning
2-24-10
FINAL PLAT
PHASE II, SECTION 1
HARVEST HILLS


MELVIN ROAD ROUTE 17/2
(50' RIGHT OF WAY)
N/F
DEMING
D.B. 837, PG. 244
T.M. 23, PAR. 2
RESIDUE PARCEL
2,961,572 SQ. FT.
68.04751 AC.
(DEVELOPMENT RIGHTS RESERVED)
(SEE NOTE 2)
CSX RAILROAD
(RAILROAD VALUATION MAPS V35(1/3 & V35(1/5)
DISTRICT 8, TAX MAP 24
ZONE C
FLOOD ZONE A
100-YEAR FLOODPLAIN
APPROX WETLANDS LOCATION
ELK RUN
25' FLOODPLAIN WIDTH
EX. 20' ACCESS ESM'T.
P.B. 25, PG. 70
(HEREBY VACATED)
EX. 20' SWM BASIN ESM'T.
P.B. 25, PG. 70
EX. 100' POWER LINE ESM'T.
D.B. 134, PG. 213
MATCH LINE SHEET 6 OF 9
MATCH LINE SHEET 4 OF 9
OFFICIAL SEAL
Approved Final Plat
Director of Planning & Zo
2-24-10
FINAL PLAT
PHASE II, SECTION 1
HARVEST HILLS
LEGEND:
IPF = IRON PIPE FOUND
IR = IRON RE-BAR FOUND
= 4"x4" CONCRETE MON. TO BE SET
= (5/8"x5/8" RT BAR TO BE SET
GRAPHIC SCALE: 1" = 50'



OFFICIAL SEAL

Approved Final Plat
Jennifer M. Buckner
Director of Planning
Zoning
8-24-10

FINAL PLAT
OF
PHASE II, SECTION 1
HARVEST HILLS
TAX MAP 24 PARCEL 12 AND TM 24A PARCEL 16 & 17
SHENANDOAH DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA
SCALE: 1"=50' JUNE 30, 2010
REVISED: NOVEMBER 20, 20

William M. Gardner Associates, Inc.
CIVIL ENGINEERS · SURVEYORS · LAND PLANNERS · LANDSCAPE ARCHITECTS · SITE SECURITY CONSULTANTS
301 N. Queen Street, Suite 1
Charles Town, West Virginia 25414
Phone: 304 725-3456 Fax: (304) 725-3127 www.wmgai.com

DWG# 808-01 2726-0101 | 330 | CAD FILE: 2726-0101_RPC1.DWG SHEET 9

PETER L CHAKMAKIAN LC
PO BOX 547
CHARLES TOWN, WV 25414-0547

Jennifer S Meehan
JEFFERSON County 01:51:49 PM
Instrument No 201501519?
Date Recorded 10/20/2015
Document Type DEED
Pages Recorded 15
Book-Page I163-351
Recording Fee $21.00
Additional $6.00

THIS DEED made this 19th day of October, 2015, by and between **ARCADIA COMMUNITIES, L.L.C., a Virginia limited liability company,** successor by conversion to Arcadia Communities, Inc., a Virginia corporation authorized to do business in West Virginia, hereinafter referred to as GRANTOR; and **ARCADIA INTER VIVOS TRUST, under a trust agreement dated October 19th, 2015,** hereinafter referred to as GRANTEE.

WITNESSETH: That for and in consideration of the sum of Ten Dollars ($10.00), the receipt and sufficiency of which is hereby acknowledged, the said Grantor does hereby grant and convey, transfer and set over unto the Grantee, all of its right, title and interest in and to the parcels of real property as described as follows:

SEE ATTACHED LEGAL DESCRIPTION for PARCELS 1, 2, 3.

THIS CONVEYANCE IS MADE SUBJECT TO all covenants, conditions, restrictions and easements of record or in existence.

THIS CONVEYANCE IS ALSO MADE SUBJECT TO the following reservations for non-exclusive easements for the benefit of the GRANTOR, its successors or assigns, and at Grantor's request Grantee shall cause any one or more of the same to be conveyed to a utility or municipal authority within thirty (30) days after such request, or, at Grantee's option, Grantee will assume the operation and maintenance of the facilities located within such easements and cause bonds and sureties posted by Grantor to be replaced so that Grantee is responsible for the same, in which event Grantee will indemnify Grantor from all costs and liabilities arising after such thirty (30) day period until Grantor is fully released from the bonds and all associated liability:

PARCEL 1:

1) 15' Sanitary Sewer Easement across Multi-Family Parcel I as shown on the plat entitled "Final Plat of Arcadia-Norborne Glebe, LLC" dated April 9, 2007, revised through November 17, 2007, and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Plat Book 25 at page 6, and described thereon as "15' San. Sew. Esm't"

2) 15' Sanitary Sewer Easement across SWM Facility Parcel J as shown on the plat entitled "Final Plat of Arcadia-Norborne Glebe, LLC" dated April 9, 2007, revised through November 17, 2007, and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Plat Book 25 at page 6, and described thereon as "15' San. Sew. Esm't"

3) 15' Sanitary Forcemain Easement across Multi-Family Parcel I and Commercial Lot Parcel H as shown on the plat entitled "Final Plat of Arcadia-Norborne Glebe, LLC" dated April 9, 2007, revised through November 17, 2007, and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Plat Book 25 at page 6, and described thereon as "15 San. Forcemain Easement"

4) Temporary Access Easement across Commercial Lot Parcel H, Multi-Family Parcel I and SWM Facility Parcel J as shown on the plat entitled "Final Plat of Arcadia-Norborne Glebe, LLC" dated April 9, 2007, revised through November 17, 2007, and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Plat Book 25 at page 6

5) Signage Easement on Commercial Lot Parcel H as shown on the plat entitled "Final Plat of Arcadia-Norborne Glebe, LLC" dated April 9, 2007, revised through November 17, 2007, and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Plat Book 25 at page 6, and described thereon as "Signage Easement;" Provided, That Grantor and Grantee herein agree that (i) any improvements contained or located within the easement may not be removed., and (ii) the area of such easement may be reduced by Grantee as long as the then-current improvements remain within the reduced easement area.

6) Signage Easement on Parcel G as shown on the plat entitled "Final Plat of Arcadia Development Co" dated April 4, 2007, and revised through November 9, 2007, and recorded in the aforesaid Clerk's Office in Plat Book 25 at page 5, and described thereon as "Signage Easement ;" Provided, That Grantor and Grantee herein agree that (i) any improvements contained or located within the easement may not be removed, and (ii) the area of such easement may be reduced by Grantee as long as the then-current improvements remain within the reduced easement area.

7) 20' Water Line Easement off Campbell Drive in Parcel F as shown the plat entitled "Final Plat of Arcadia Development Co" dated April 4, 2007, and revised through November 9, 2007, and recorded in the aforesaid Clerk's Office in Plat Book 25 at page 5.

8) 15' Sanitary Sewer Easement off of Barksdale Drive and on Other Lands of Arcadia Communities, Inc., and part of a 15' Sanitary Sewer Easement across the rear boundary lines of Lots 231 through 239 and on Other Lands of Arcadia Communities, Inc., as shown on Sheet 3 of 4 of a plat entitled "Final Subdivision Plat of Norborne Glebe Phase 5" dated September 9, 2013, and recorded in the aforesaid Clerk's Office in Plat Book 25 at page 502.

9) 15' Sanitary Sewer Easement, 15' Storm Sewer Easement, 15' Waterline Easement and Storm Sewer Easements off of Candlewood Drive and near the traffic circle surrounding Open Space Parcel C on Other Lands of Arcadia Communities, Inc., as shown on Sheet 4 of 4 of a plat entitled "Final Subdivision Plat of Norborne Glebe Phase 4" dated June 7, 2013, and recorded in the aforesaid Clerk's Office in Plat Book 25 at page 389.

10) 24' Storm Sewer Easement off Courier Drive on Other Lands of Arcadia Communities, Inc., as shown on Sheet 4 of 4 of a plat entitled "Final Subdivision Plat of Norborne Glebe Phase 4" dated June 7, 2013, and recorded in the aforesaid Clerk's Office in Plat Book 25 at page 389.

11) 20' Water Line Easement off Candlewood Drive as shown on Sheet 3 of 4 on a plat entitled "Final Subdivision Plat of Norborne Glebe Phase 3" dated June 19, 2013, and recorded in the aforesaid Clerk's Office in Plat Book 25 at page 405.

12) Water Line and Sewer Easements across Lot 1A1 as shown on a plat entitled "Plat of Correction Norborne-Glebe Phase 1" dated June 18, 2002 and revised through October 29, 2007, and recorded in the Office of the Clerk of the County Commission in Plat Book 25 at page 55.

PARCEL 2:

1) 20' Berkeley County Public Sanitary Sewer District Easement as shown on as shown on the plat entitled "Re-Plat of Phase 1, Section 1, Yorkshire Glen" dated October 1, 2007, and recorded in the Office of the Clerk of the County Commission of Berkeley County, West Virginia, in Plat Book 14 at page 8, and described thereon as "20' B.C.P.S.S.D. Esm't".

2) Berkeley County Public Sanitary Sewer District Pump Station Easement as shown on the plat entitled "Re-Plat of Phase 1, Section 1, Yorkshire Glen" dated October 1, 2007, and recorded in the aforesaid Clerk's Office in Plat Book 14 at page 8, and described thereon as "B.C.P.S.S.D. Pump Station Esm't".

IN ADDITION TO THE EASEMENTS HEREIN RESERVED, the following are also reserved to GRANTOR over Parcel 1 and Parcel 2: (i) all utilities, pump stations, roads, water lines, sewer lines, drainage and storm water management facilities, community signage and other facilities that were bonded and/or constructed by Grantor, or which are to be bonded and constructed by Grantor, and which are necessary for the intended use of Grantor's remaining property (such matters are the "Required Elements"), (ii) a reservation of sufficient sewer, water and storm water management capacity from all Required Elements to assure that Grantor will have the capacity necessary to serve the Grantor's remaining property and the intended use thereof, and (iii) all permits, licenses and approvals associated with the Required Elements. The parties hereto acknowledge and agree that in connection with the use and development of the property herein conveyed and the property owned by Grantor and adjacent or in the vicinity of the property herein conveyed, that certain additional easements and dedications may be required. The parties herein agree to cooperate in good faith to grant any such easements and dedications, provided the same do not materially affect the use and development of their respective property and without cost to the party granting such easement or dedication. All easements and dedications shall be on a mutually agreeable form and the parties will negotiate the same in good faith and obtain the consents of any secured lender to the same. This agreement will run with the land and be binding on the parties hereto and their respective successors and assigns.

DECLARATION OF CONSIDERATION OR VALUE

Under penalties of fine and imprisonment, as provided by law, the undersigned hereby declare that the transfer of real estate included in this document to which this declaration is appended is not subject to the West Virginia Excise Tax on the Transfer of real estate for the reason that the same is a transfer to an inter vivos trust and therefore exempt under West Virginia Code §11-22-1(4).

WITNESS the following signature and seal:

ARCADIA COMMUNITIES, L.L.C.

BY: _____ **(SEAL)**
Name: Brad Durga
Title: COO

STATE OF WEST VIRGINIA
COUNTY OF JEFFERSON, to wit:

I, Alice Anne Chakmakian, a Notary Public within and for said County and State, do hereby certify that Brad Durga, COO, whose name is signed to the writing above, bearing date the 19th day of October, 2015, for ARCADIA COMMUNITIES, L.L.C., has this day in my said County, before me, acknowledged the said writing to be the act and deed of said Limited Liability Company.

Given under my hand this 19th day of October, 2015.

My commission expires: 9/1/23

(Affix Notary Seal)

Official Seal
Notary Public, State of West Virginia
Alice Anne Chakmakian
C/O Peter L Chakmakian L C
PO Box 547
Charles Town, WV 25414
My Commission Expires September 1, 2020

Alice Anne Chakmak
Notary Public

THIS INSTRUMENT PREPARED BY: Peter L. Chakmakian, Attorney at Law, P.O. Box 547, Charles Town, West Virginia 25414

LEGAL DESCRIPTION

PARCEL 1: NORBORNE GLEBE nka ARCADIA CHASE

The following certain tracts or parcels of real estate with the improvements thereon, and all rights, ways and easements incident thereto, situate in City of Charles Town, Jefferson County, West Virginia, more particularly described as follows:

TRACT ONE:

1) All that certain lot or parcel of real estate which is more particularly bounded and described according to a survey and plat made by William H. Gordon Associates, Inc., dated April 12, 2007, and revised November 12, 2007, and March 24, 2008, entitled "Plat Showing Boundary Survey of Arcadia Development Co.", thereon described as "Parcel C-1" Arcadia Development Co., containing 1.89178 Acres, which said survey and plat is attached to and recorded with, and made a part of a deed recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Deed Book 1049 at page 444.

2) All that certain lot or parcel of real estate which is more particularly bounded and described according to a survey and plat made by William H. Gordon Associates, Inc., dated August 23, 2006, and revised August 30, 2006, November 30, 2006, November 12, 2007, and March 24, 2008, entitled "Plat Showing Boundary Survey of Arcadia Development Co.", thereon described as "Parcel C-2" Arcadia Development Co., containing 0.36132 Acres, which said survey and plat is attached to and recorded with, and made a part of a deed recorded in the aforesaid Clerk's Office in Deed Book 1049 at page 457.

3) All that certain lot or parcel of real estate which is more particularly bounded and described according to a survey and plat made by William H. Gordon Associates, Inc., dated April 13, 2007, and revised November 12, 2007, and March 24, 2008, entitled "Plat Showing Boundary Survey of Arcadia Development Co.", thereon described as "Parcel D" Arcadia Development Co., containing 1.62348 Acres, which said survey and plat is attached to and recorded with, and made a part of a deed recorded in the aforesaid Clerk's Office in Deed Book 1049 at page 449.

4) All that certain lot or parcel of real estate which is more particularly bounded and described according to a survey and plat made by William H. Gordon Associates, Inc., dated April 4, 2007, and revised April 20, 2007, June 27, 2007, September 14, 2007, November 9, 2007, and January 4, 2007, entitled "Final Plat of Parcels E, F & G, Norborne Glebe", which said survey and plat is recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Plat Book 25 at page 5, thereon described as Parcel G, containing 2.68361 Acres.

5) All that certain lot or parcel of real estate which is more particularly bounded and described according to a survey and plat made by William H. Gordon Associates, Inc., dated April 9, 2007, and revised April 16, 2007, June 27, 2007, September 14, 2007, October 4, 2007, November17, 2007, and December 20, 2007, entitled "Final Plat of Arcadia-Norborne Glebe, L.L.C.," which said survey and plat is recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Plat Book 25 at page 6, thereon described as Parcel H, containing 23.99832 Acres.

AND BEING the same parcels of real estate that were conveyed unto Arcadia Communities, Inc., a Virginia corporation by deed from Arcadia-NG Evitts Run, L.L.C., a West Virginia limited liability company acting by and through Robert O. Tyler, Chapter 7 Trustee for Arcadia-NG Evitts Run, L.L.C., and pursuant to an Order of the United States Bankruptcy Court for the Eastern District of Virginia Alexandria Division, dated February 29, 2012, and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, on March 20, 2012 in Deed Book 1105 at page 615.

TRACT TWO:

All that certain parcel of real property which is more particularly bounded and described according to a survey and plat made by William H. Gordon Associates, Inc., dated April 9, 2007, and revised April 16, 2007, June 27, 2007, September 14, 2007, October 4, 2007, November 17, 2007, and December 20, 2007, entitled "Final Plat of Arcadia-Norborne Glebe, L.L.C., which said survey and plat is recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Plat Book 25 at page 6, thereon described as Multi-Family Parcel I, containing 16.51715 Acres.

AND BEING the same real estate conveyed to Arcadia Communities, Inc., a Virginia corporation, by deed from Arcadia-NG Candlewood Drive, L.L.C., a West Virginia limited liability company, acting by and through Robert O. Tyler, Chapter 7 Trustee for Arcadia-NG Candlewood Drive, L.L.C., and pursuant to an Order of the United States Bankruptcy Court for the Eastern District of Virginia Alexandria Division, dated February 29, 2012, and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, on March 20, 2012, in Deed Book 1105 at page 608.

TRACT THREE:

All that certain parcel of real property which is more particularly bounded and described on a plat entitled "Final Plat of Arcadia-Norborne Glebe, LLC", made by William H. Gordon Associates, Inc., dated April 9, 2007, and revised April 16, 2007, June 27, 2007, September 14, 2007, October 4, 2007, November 17, 2007 and December 20, 2007, which said Plat is recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Plat Book 25 at page 6, thereon described as SWM Facility, Parcel J, containing 12.16 Acres.

AND BEING the same parcels of real estate that were conveyed unto Arcadia Communities, Inc., a Virginia corporation, by deed from Arcadia-Norborne Glebe, L.L.C., acting by and through Robert O. Tyler, Chapter 7 Trustee for Arcadia-Norborne Glebe, L.L.C., and pursuant to an Order of the United States Bankruptcy Court for the Eastern District of Virginia Alexandria Division, dated February 29, 2012, and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, on March 20, 2012, in Deed Book 1105 at page 624.

TRACT FOUR:

All those certain lots or parcels of real estate which are more particularly bounded and described according to a survey and plat made by William H. Gordon Associates, Inc., dated April 4, 2007, and revised April 20, 2007, June 27, 2007, September 14, 2007, November 9, 2007, and January 4, 2007, entitled "Final Plat of Parcels E, F & G, Norborne Glebe", which said survey and plat is recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Plat Book 25 at page 5, thereon described as Residue Area Parcel E, containing 14.04208 Acres and Parcel F, containing 4.41249 acres.

AND BEING a part of the real estate that was conveyed unto Arcadia Communities, Inc., a Virginia Corporation from the Arcadia *Inter Vivos* Trust, by deed dated July 23, 2012, and recorded in the aforesaid Clerk's Office in Deed Book 1114 at page 471.

TRACT FIVE:

All that certain tract or parcel of real estate which is more particularly bounded and described according to a survey and plat entitled "Plat of Correction Norborne-Glebe Phase I" dated June 18, 2002 and revised through October 29, 2007, and recorded in the Office of the Clerk of the County Commission in Plat Book 25 at page 55, and described thereon as, thereon described as Residue Parcel 1A1.

AND BEING a part of the real estate that was conveyed unto Arcadia Communities, Inc., a Virginia Corporation from the Arcadia *Inter Vivos* Trust, by deed dated July 23, 2012, and recorded in the aforesaid Clerk's Office in Deed Book 1114 at page 471.

TRACT SIX:

All that certain tract or parcel of real estate which is more particularly bounded and described according to a snrvey and plat entitled "Plat of Correction Norborne-Glebe Phase 1" dated June 18, 2002 and revised through October 29, 2007, and recorded in the Office of the Clerk of the County Commission in Plat Book 25 at page 55, and described thereon as, thereon described as Residue containing 216.3 acres ±.

LESS AND EXCEPTING FROM THIS TRACT, HOWEVER, the following outsales:

1. Deed to Arcadia-Norborne Glebe, L.L.C., a West Virginia Limited Liability Company, recorded in the aforesaid Clerk's Office in Deed Book 979 at page 389, and by Deed of Correction recorded in the aforesaid Clerk's Office in Deed Book 1044 at page 722 (52.70475 acres).

2. Deed to Arcadia-Norborne Glebe Evitts Run, L.L.C., a West Virginia Limited Liability Company, recorded in Deed Book 1049 at page 454 (Parcel G, containing 2.68361 acres).

AND ALSO LESS AND EXCEPTING FROM THIS TRACT, the following:

3. All those certain lots or parcels of real estate which are more particularly bounded and described according to a survey and plat made by William H. Gordon Associates, Inc., dated April 4, 2007, and revised April 20, 2007, June 27, 2007, September 14, 2007, November 9, 2007, and January 4, 2007, entitled "Final Plat of Parcels E, F & G, Norborne Glebe", which said survey and plat is recorded in the Office of the Clerk of the County Commission of Jefferson Connty, West Virginia, in Plat Book 25 at page 5, thereon described as Parcels E and F.

3. All those certain parcels of real property contained in Phase 2A, Norborne Glebe Subdivision, as shown on the plat entitled "Final Plat of Norborne Glebe Phase 2A" dated April 18, 2006, revised through September 5, 2006, and recorded in the aforesaid Clerk's Office in Plat Book 23 at page 67, and described thereon as Lots 79-83, 88-89, 92-104, inclnsive, Burberry Lane, Featherstone Drive and Campbell Drive.

4. All those certain parcels of real property contained in Phase 2, Norborne Glebe Subdivision, as shown on the plat entitled "Final Plat of Norborne Glebe Phase 2" dated May 8, 2006, revised through September 21, 2006, and recorded in the aforesaid Clerk's Office in Plat Book 23 at page 97, and described thereon as Lots 105-110, 140-159, 174-181, inclusive, Open Space Parcel A, Open Space Parcel B, Open Space Parcel C, Open Space Parcel D, Casorsa Drive, Seaton Lane, Campbell Drive, Santmyer Way and Candlewood Drive.

5. All those certain parcels of real property contained in Phase 3, Norborne Glebe Subdivision, as shown on the plat entitled "Final Subdivision Plat of Norborne Glebe Phase 3" dated June 19, 2013, and recorded in the aforesaid Clerk's Office in Plat Book 25 at page 405, and described thereon as Lots 90-91, 111-125, 133-139, 160-166, Open Space A, Open Space B, Barksdale Drive, Penticton Way, Stone Lane, Okanagan Drive.

6. All those certain parcels of real property contained in Phase 4, Norborne Glebe Subdivision, as shown on the plat entitled "Final Subdivision Plat of Norborne Glebe Phase 4" dated June 7, 2013, and recorded in the aforesaid Clerk's Office in Plat Book 25 at page 389, and described thereon as Lots 182-189, 205-218, 240-246, Open Space Parcel A, Open Space Parcel B, Open Space Parcel C, Open Space Parcel D, Courier Drive, Casorsa Drive, Tornworth Drive and Candlewood Drive.

7. All those certain parcels of real property contained in Phase 5, Norborne Glebe Subdivision, as shown on the plat entitled "Final Subdivision Plat of Norborne Glebe Phase 5"

dated September 9, 2013, and recorded in the aforesaid Clerk's Office in Plat Book 25 at page 502, and described thereon as Lots 126-132, 167-173, 190-204, 219-239, Open Space Parcel A, Open Space Parcel B, Open Space Parcel C, Courier Drive, Okanagan Drive, Graywood Lane and Barksdale Drive.

8. A portion of that certain parcel real property denoted as Residue on the plat entitled "Plat of Correction Norborne-Glebe Phase 1" dated June 18, 2002 and revised through October 29, 2007, and recorded in the Office of the Clerk of the County Commission in Plat Book 25 at page 55, containing13, 127 square feet, more or less, and described as follows:

Beginning at a point along the southerly line of Courier Drive as shown on the plat entitled "Final Subdivision Plat of Norborne Glebe Phase 4" dated June 7, 2013, and recorded in the aforesaid Clerk's Office in Plat Book 25 at page 389, and being the northeasterly corner of Lot 240 as described thereon; thence with the southerly line of Courier Drive thence SOUTH 78°43'27" EAST 78.61 FEET to a point; thence continuing with the southerly line of Courier Drive as shown on the plat entitled "Final Subdivision Plat of Norborne Glebe Phase 5" dated September 9, 2013, and recorded in the aforesaid Clerk's Office in Plat Book 25 at page 502 SOUTH 78°43'27" EAST 30.78 FEET to a point being the northwesterly corner of Lot 239 as shown on said plat; thence departing Courier Drive and running with the westerly line of Lot 239 SOUTH 11°16'33" WEST 120.00 FEET to the southwesterly corner of Lot 239; thence departing Lot 239 and running through the above referenced Residue NORTH 78°43'27" WEST 109.39 FEET to the southeasterly corner of Lot 240 referenced above; thence with said Lot 240 NORTH 11°16'33" EAST 120.00 FEET to the point of beginning.

TOGETHER WITH a non-exclusive easement across the right of way easements and roads contained in the snbdivision shown on the aforementioned plats of phases 2, 2a, 3, 4 and 5 of Norborne Glebe Subdivision for the purpose of ingress and egress between the property and the public road and non-exclusive easements within the sanitary sewer, sewer, storm drain, and waterline easements as shown on the aforesaid plats of phases 1, 2, 2a, 3, 4 and 5 of Norborne Glebe Subdivision for the purpose of the conveyance of storm water, sewer and water in connection with future development of this Parcel 1.

AND BEING a part of the real estate that was conveyed unto Arcadia Communities, Inc., a Virginia Corporation from the Arcadia *Inter Vivos* Trust, by deed dated July 23, 2012, and recorded in the aforesaid Clerk's Office in Deed Book 1114 at page 471.

It is the intention that this TRACT SIX contain all the property to the south of SWM Facility Parcel J as it is shown on the Plat entitled "Final Plat of Arcadia-Norborne Glebe, L.L.C." dated April 9, 2007, revised through November 17, 2007, and recorded in the aforesaid Clerk's Office in Plat Book 25 at page 6; to the south of the southern boundary of the property depicted on the plats for Phases 4 and 5 of Norborne Glebe Subdivision as shown on the respective plats for these phases and to the south of the parcel described in item 8 of the less and excepting provisions above. The following is a more particular description of the TRACT SIX:

Beginning at an iron rod found as shown on a plat by William H. Gordon and Associates, Inc. recorded in the Office of the Clerk of the Jefferson County Court, WV in Plat Book 25, at page 6; thence with eleven (11) lines shown on said plat,

S 53°11'17" E 80.18' to an 18" x 5/8" rebar set; thence

S 76°15'10" E 829.04' to an 18" x 5/8" rebar set; thence

S 18°47'53" E 199.75' to an 18" x 5/8" rebar set; thence

N 71°12'07" E 70.68' to an 18" x 5/8" rebar set; thence with a curve to the left, Chord Bearing = **N 62°58'09"** E, Chord Distance = **481.87-feet**, Radius = **1682.55-feet**,

Arc Length = **483.53-feet**, to an 18" x 5/8" rebar set; thence with a curve to the left,

Chord Bearing = **N 2°25'32" E**, Chord Distance = **39.57-feet**, Radius = **25.17-feet**, Arc Length = **45.52-feet**, to an 18" x 5/8" rebar set; thence,

N 49°53'08" W 370.03' to an 18" x 5/8" rebar set; thence with a curve to the left,

Chord Bearing = **N 70°49'04" W**, Chord Distance = **17.86-feet**, Radius = **25.00-feet**, Arc Length = **18.27-feet**, to an 18" x 5/8" rebar set; thence with a curve to the right,

Chord Bearing = **N 12°05'14" W**, Chord Distance = **147.57-feet**, Radius = **75.00-feet**, Arc Length = **208.58-feet**, to an 18" x 5/8" rebar set; thence with a curve to the left,

Chord Bearing = **N 46°25'04" E**, Chord Distance = **18.05-feet**, Radius = **25.00-feet**, Arc Length = **18.47-feet**, to an 18" x 5/8" rebar set; thence,

N 25°15'27" E 228.06' to a 5/8" iron rebar & cap set as shown on a plat by Greenway Engineering, Inc. recorded in said Clerk's Office in Plat Book 25, at page 389; thence with three lines as shown on said plat,

S 64°44'33" E 100.00' to a 5/8" iron rebar & cap set; thence,

S 63°55'08" E 36.35' to a 5/8" iron rebar & cap set; thence,

S 78°43'27" E 619.72' to a 5/8" iron rebar & cap set; thence with a new line of division,

S 78°43'27" E 109.39' to a 5/8" iron rebar & cap set as shown on a plat by Greenway Engineering, Inc. and recorded in said Clerk's Office in Plat Book 25, at page 502; thence with five (5) lines shown on said plat,

S 78°43'27" E 805.86' to a 5/8" iron rebar & cap set; thence

S 13°38'48" W 6.85' to a 5/8" iron rebar & cap set; thence

S 76°21'12" E 50.00' to a 5/8" iron rebar & cap set; thence

N 13°38'48" E 41.77' to a 5/8" iron rebar & cap set; thence

S 76°21'12" E 154.55' to an unmarked point in a line shown on a plat by Huntley, Nyce & Associates, Ltd. and recorded in said Clerk's Office in Plat Book 25, at page55; thence

S 14°57'11" W 1636.80' (distance is shown on previously mentioned plat by Greenway Engineering, Inc. in Plat Book 25, at page 502) to a 5/8" rebar set; thence with fourteen (14) lines shown on said Huntley, Nyce & Associates, Ltd. plat,

S 14°21'21" W 1439.82' to a 5/8" rebar set; thence

N 37°36'18" W 1941.74' to a 5/8" rebar set; thence

S 46°12'55" W 113.77' to a 5/8" rebar set; thence

N 52°25'11" W 719.96' to a 5/8" rebar set; thence

S 39°53'45" W 930.74' to a point (no corner identification on plat); thence

N 42°47'30" W 307.02' to a point (no corner identification on plat); thence

N 8°48'52" E 973.25' to a 5/8" rebar set; thence

N 11°11'38" E 88.43' to a 5/8" rebar set; thence

N 17°16'04" E 101.95' to a 5/8" rebar set; thence

N 20°12'45" E 101.93' to a 5/8" rebar set; thence

N 24°49'31" E 101.95' to a 5/8" rebar set; thence

N 29°28'14" E 61.00' to a 5/8" rebar set; thence

N 33°47'00" E 40.99' to a 5/8" rebar set; thence

N 36°48'39" E 79.69' (bearing is as shown on said Huntley, Nyce & Associates, Ltd. plat in Plat Book 25, at page 55 and distance is as shown on a plat by Appalachian Surveys, Inc. recorded in Plat Book 9, at page 38) to the **point of beginning**, containing an area of **127.19 Acres**, more or less.

With the compilation of the dimensions shown on the record plats, this description does not close geometrically. The closing bearing and distance is **S 88°56'37" E 0.58'**. All corners called for in this description are as shown on the plats of record. No field survey was performed for this description.

PARCEL 2: YORKSHIRE GLEN nka ARCADIA SPRINGS

The following certain tracts or parcels of real estate with the improvements thereon, and all rights, ways and easements incident thereto, situate in Arden District, Berkeley County, West Virginia, more particularly described as follows:

TRACT ONE:

Beginning at a stake in the middle of the road leading from the iron bridge to Vanclevesville, corner to Jacob Miller's heirs and in a line of John W. Deck; thence with a line of the latter along the middle of the road S. 78 deg. 45' W. 40.6 poles to a stake corner to same; thence with another of her lines N. 1 deg. 15' E. 68.6 poles to a stake corner to same and in a line of William B. Evers; thence with his line N. 83 deg. W. 85.4 poles to a stake, corner to same and

in a line of James Clayton; thence with his lines S. 18 deg. 30' E. 5 poles to a stake; thence with his line in part and finally with Thomas Brannon S. 3 deg. 45' E. 44.1 poles to a point where a large white oak is called for in original (now gone) corner to same; thence with Brannon N. 86 deg. 15' W. 56.2 poles to the center of the Kearneysville Road; thence leaving the original line and running along the center of said road S. 9 deg. 30' W. 27.8 poles; thence S. 20 deg. 30' E. 14.1 poles; thence S. 34 deg. 15 E. 7.7 poles; thence S. 21 deg. 0' E. 12.9 poles to the intersection of the center lines of the Kearneysville and Vanclevesville Roads, it being an original corner; thence with the original line along the center of the Kearneysville road S. 6 deg. 0' E. 50.6 poles to a stake corner to Oden and G. Feller's Heirs and in the road; thence with a line of Feller's Heirs in part and finally with W.M. Vancleves's Heirs S. 65 deg. 45' E. 94.8 poles to a stake corner to Vancleve's Heirs; thence with their lines S. 82 deg. 0' E. 81.8 poles to a pile of stone; thence N. 0 deg. 45' E. 101.4 poles to a stone corner to Jacob Miller's Heirs; thence with their line N. 14 deg. 0' W. 40.3 poles to the beginning, containing 163 acres, be the same more or less; according to a plat thereof made by Wade Butler and Kesecker, July 28, 1948, attached to and made a part of Deed from Henry J. Seibert and Katherine L. Seibert, his wife, dated the 14th day of August, 1948, to which reference is hereby made for a full and complete description of said property,

SAVING AND EXCEPTING THEREFROM, HOWEVER, the following described outsale made by Paige F. Sions and Betty E. Sions, his wife, to Floyd A. Files and Laura Catherine Gregory files, his wife, by deed dated the 25th day of July, 1957, and recorded in the Office of the Clerk of the County Commission of Berkeley County, West Virginia, in Deed Book 205, at Page 566, to wit: a certain lot or parcel of real estate, situate, lying and being on the north side of the public road leading from West Virginia Route numbered 9 to the Village of Vanclevesville in Arden District of Berkeley County, West Virginia, consisting of 2 acres more or less and more particularly described as follows: "Beginning at a point in the center line of public road 9/18 and corner to the line of Needy; thence in the center line of said public road, 300 feet in a westwardly direction, and running back of equally width in a northerly direction with the line of Needy and parallel thereto, a distance of 300 feet." And further reference is hereby made to that certain plat of the property prepared by Willard F. Wurzburg, Jr., dated July 5, 1957, and recorded in the aforesaid Clerk's Office in Deed Book 205, at page 567.

AND FURTHER EXCEPTING THEREFROM, HOWEVER, BEGINNING at (1), 5/8 inch capped (Davy) rebar, set, in a line of a 160.9339 acre tract of land now owned by Paige F. Sions and Betty E. Sions (see Deed Book 205, at page 82) of which this tract is a part and in a line of a 3.672 acre tract now owned by Vernon Dodson (see Deed Book 195, at page 97) and being a corner to a 50 foot wide nonexclusive easement (see Note C on Plat No. D95-036). Said rebar is referenced by (I), a fence post, found, which bears 60-11'-07 E. at 699.74 feet; thence with the 160.9339 acre tract of Sions for seven lines and with Dodson's 3.672 acre tract for one line and bounds of said 50-foot wide nonexclusive easement, for two lines and along or near a fence line for line, FIRST COURSE, N. 60 degrees - 46 minutes – 09 seconds W. 100.88 feet to (A) a fence post, found, in line and continue same course with Dodson and continuing with a line of an 0.828 acre tract of land now owned by Daniel Stanley (See Deed Book 296, at Page 330), 557.58 feet to (B), a fence post, found, in line and continue same course 14.68 feet to (C), a 5/8 inch capped (Davy) iron rod, set, in line and continue same course 5.00 feet to (D), a calculated point, in line and a corner of said 0.828 acre tract on the eastern bounds of West Virginia Secondary Route 36/1 [Corner No. D is referenced by (J) a 3 inch pipe over a metal fence post, found, which bears S. 10-46' -01" W. at 273.93 feet] and continue with same course 15.00 feet (in all 71.3.14 feet) to (2), a calculated point in the centerline of West Virginia Secondary Route 36/1 (a 30-foot right-of-way), and at the beginning of a circular curve to the left; thence, with the centerline of said county road

for six lines, SECOND COURSE, with the arc for 55.99 feet (said Curve No. 1's chord bears N 02-33'-01" E. at 55.96 feet) to (E), a calculated point in said curve and being another corner to aforesaid 50-foot wide nonexclusive easement and leaving said easement and continuing with the same curve, with the arc for 2.93 feet (said Curve No. 2's chord bears N. 01-02'-05" W. at 2.93 feet) (in all an arc distance of 58.92 feet and a chord of N. THIRD COURSE, N. 01 degrees – 18 minutes – 25 seconds W. 73.12 feet to (4) a calculated point; thence FOURTH COURSE, N. 02 Degrees – 19 minutes – 39 seconds W. 341.30 feet to (5) a calculated point; thence FIFTH COURSE, N. 01 Degrees – 51 minutes – 45 Seconds W. 184.73 feet to (6) a calculated point; thence SIXTH COURSE, N 02 degrees – 46 minutes -53 Seconds W. 91.74 feet to (7) a calculated point at the beginning of a circular curve to the left; thence SEVENTH COURSE with the arc for 90.95 feet (said Curve No. 3's chord bears N. 09-24'-17" W. at 90.74 feet) to (8) a calculated point at the centerline intersection of West Virginia's Secondary Route 36/1 and West Virginia Secondary Route 9/18; thence, leaving said 160.9339 acre tract and going across and through the 160.9339 acre tract with new division lines for four lines and with the centerline of West Virginia Secondary Route 9/18 for three lines, EIGHTH COURSE, N. 86 Degrees – 25 minutes – 27 seconds E. 192.34 feet to (9), a calculated point at the beginning of a circular curve to the left; thence NINTH COURSE, with the arc for 351.58 feet (said Curve No's 4 chord bears N. 81-17'-05" E. at 351.15 feet to (10) a calculated point; thence, TENTH COURSE, N. 76 Degrees – 23 minutes – 01 seconds E. 75.97 feet to (11), a calculated point; thence, leaving said Route No. 9/18, ELEVENTH COURSE, S. 02 Degrees – 09 minutes – 19 seconds E. 15.00 feet to (F), a 5/8 inch capped (Davy) rebar, set, in line and continue same course, 1197.39 feet to (G), a 5/8 inch capped (Davy) rebar, set, in line and being another corner to the aforesaid 50-foot wide nonexclusive easement and continue same course, 58.57 feet (in all 1270.96 feet) to the point of beginning, containing 14.500 total acres, more or less. Reference is made to a plat made by Ricky C. Davy dated August 29, 1995, and recorded with the deed hereinafter mentioned.

BEING the same real estate that was conveyed unto Arcadia Development Co., a California Corporation, from Marguerite S. Byers, Beverly M. Radcliff, Debra K. Miller Evelyn S. Edwards, Betty Louise Kessell, Kathy Lee Muia and Stephen Frederick Sions, by deed dated January 6, 2005, and recorded in the aforesaid Clerk's Office in Deed Book 788 at page 175.

AND ALSO BEING a part of the real estate that was conveyed unto Arcadia Communities, Inc., a Virginia Corporation from the Arcadia *Inter Vivos* Trust, by deed dated July 23, 2012, and recorded in the aforesaid Clerk's Office in Deed Book 1015 at page 592; and recorded in Deed Book 1018 at page 326, on September 20, 2012.

LESS AND EXCEPTING THEREFROM, HOWEVER, ALL PORTIONS OF THE PROPERTY SOUTH OF W.V. Route 9/18, VAN CLEVESVILLE ROAD, more particularly described as follows:

1) All those certain parcels of real property contained in Phase 1, Section 1, Yorkshire Glen, as shown on the plat entitled "Re-Plat of Phase 1, Section 1, Yorkshire Glen" dated October 1, 2007, and recorded in the aforesaid Clerk's Office in Plat Book 14 at page 8, and described thereon as Lots 1 through 20, inclusive, SWM Area, Bolton Court, Liverpool Lane and Aldershot Drive.

2) All those certain parcels of real property contained in Phase 1, Section 2A, Yorkshire Glen, as shown on the plat entitled "Re-Plat of Phase 1, Section 2A, Yorkshire Glen" dated October 1, 2007, and recorded in the aforesaid Clerk's Office in Plat Book 14 at page 13, and described thereon as Lots 21 through 104, Lots 131-135, Lots 153 through 162, inclusive, SWM Parcel A, Liverpool Lane, Aldershot Drive, Serpentine Way, Nailsworth Street, Shrewsbury Drive and Oxford Way

3) All those certain parcels of real property contained in Phase 1, Section 2B, Yorkshire Glen, as shown on the plat entitled " Final Plat of Phase 1, Section 2B, Yorkshire Glen" dated August 9, 2007 and revised through October 1, 2007, and recorded in the aforesaid Clerk's Office in Plat Book 14 at page 2, and described thereon as Lots 105 through 130, Lots 136 through 152, Lots 163 through 214, inclusive, SWM Parcel B, OSP A, Oxford Way, Zennor Way, Norfolk Lane and Shrewsbury Drive.

4) All those certain parcels of real property contained in Phase 1, Section 3, Yorkshire Glen, as shown on the plat entitled "Final Plat of Phase 1, Section 3, Yorkshire Glen" dated August 17, 2007 and revised through October 1, 2007, and recorded in the aforesaid Clerk's Office in Plat Book 14 at page 5, and described thereon as Lots 215 through 255, inclusive, OSP B, OSP C, Oxford Way, Elstow Way and Laxfield Court.

TRACT TWO:

All that certain parcel of real property, with the improvements thereon, and all rights, ways and easements incident thereto, situate in the Arden District, Berkeley County, West Virginia, and more particularly described as follows:

Beginning at a point in the center line of public road 9/18 and corner to the line of Needy; thence in the center line of said public road, 300 feet in a westwardly direction, and running back of equal width in a northerly direction with the line of Needy and parallel thereto, a distance of 300 feet. Further reference is hereby made to that certain plat of the property as prepared by Willard F. Wurzburg, Jr., and bearing date of July 5, 1957, a copy of which is recorded in the Office of the Clerk of the County Commission of Berkeley County, West Virginia, in Deed Book 205 at page 567.

AND BEING the same real estate that was conveyed unto Arcadia Communities, Inc., by deed dated February 29, 2012, and recorded in the aforesaid Clerk's Office in Deed Book 1002 at page 520.

TRACT 3:

All of that certain tract or parcel of real estate, situate in Arden District, Berkeley County, West Virginia, containing 5.91899 acres, as appearing upon a boundary survey prepared by William H. Gordon Associates, Inc., dated July 10, 2006, the same being of record in the Office of the Clerk of the County Commission of Berkeley County, West Virginia, in Plat Cabinet No. 13, at Slide 48, to which reference is hereby made for a more particular description thereof by metes and bounds.

TOGETHER WITH a right-of-way 12.5 feet in width over, along and upon the northerly part of the lands of the parties of the first part (Spitler), from West Virginia Secondary Route 36/1 to the westerly line of Triggs (1.0468 acre tract), and then by a right-of-way 12 feet in width along the westerly side of Triggs' tract to point (1) herein (point 1 in a metes and bounds description of a 2.03 acre tract conveyed by Spitler to Davis, DB 284, page 356, hereinafter referred to), for purposes of ingress , egress, and regress; BEING the same right-of-way conveyed by Saylor R. Spitler, et ux., to Ernest E. Davis, et ux., by deed dated January 6, 1975, and recorded in the aforesaid Clerk's Office in Deed Book No. 284, at page 356; reference is further made to the terms and provisions of a Settlement Agreement between Robert L. Hopkins, et ux., and Michael D. MacDonald, et ux., dated June 8, 1988, and recorded in the aforesaid Clerk's Office in Deed Book No. 433, at page 428.

BEING the same real estate conveyed to Arcadia Development Co., a California corporation, by Deed dated March 26, 2007, from Capitol Used Auto Parts, Inc., and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Deed Book 864, at Page 119.

AND ALSO BEING a part of the real estate that was conveyed unto Arcadia Communities, Inc., a Virginia Corporation from the Arcadia *Inter Vivos* Trust, by deed dated July 23, 2012, and recorded in the aforesaid Clerk's Office in Deed Book 1015 at page 592; and recorded in Deed Book 1018 at page 326, on September 20, 2012.

PARCEL 3: HARVEST HILLS nka ARCADIA DOWNS

TRACT ONE:

All those certain tracts or parcels of real estate with the improvements thereon, situate in Shepherdstown District, Jefferson County, West Virginia, more particularly described as follows:

PARCEL A:

Lots 2, 3, 4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24 and 26 Harvest Hills, as more particularly designated and described upon a plat entitled "Final Plat showing Lots 1-27 HARVEST HILLS" prepared by Appalachian Surveys, Inc., dated May, 1999, and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Plat Book 17 at pages 45A and 45B.

PARCEL B:

Lots 1 and 2 of the William P. Henderson Minor Subdivision as more particularly shown on that plat showing the William P. Henderson Minor Subdivision dated September, 1997, as prepared by Appalachian Surveys, Inc., and recorded in the aforesaid Clerk's Office in Plat Book 15 at page 83. LESS AND EXCEPTING, therefrom Merger Parcel B, consisting of 0.205 acres and Merger Parcel C, consisting of 0.271 acres, as more particularly described in the Deed of Merger dated June 8, 1999, and recorded in the aforesaid Clerk's Office in Deed Book 927 at page 231. TOGETHER WITH Merger Parcel A, consisting 0.142 acres and Merger Parcel D, consisting of 0.501 acres, as more particularly described in that Deed of Merger dated June 8, 1999, and recorded in the aforesaid Clerk's Office in Deed Book 927 at page 234.

AND BEING the same real estate conveyed unto Arcadia Communities, Inc., by deed from Arcadia-Harvest Hills, LLC, dated February 29, 2012, and recorded in aforesaid Clerk's Office in Deed Book 1105 at page 600.

TRACT TWO:

All those tracts or parcels of real estate, lying and being in the Shepherdstown District, Jefferson County, Virginia, situate near Duffields, and more particularly described as follows:

PARCEL A:

Being all of "Residue B" containing 45.364 acres, as shown on a plat entitled "Plat of Survey showing Merger Parcels from Property of William P. Henderson" drawn by Appalachian Surveys, Inc., dated May 18, 1999, said plat being recorded in the aforesaid Clerk's Office in Plat Book 15 at page 83, LESS AND EXCEPTING THEREFROM, HOWEVER, the following outsale:

Deed to Arcadia-Harvest Hills, LLC, a West Virginia Limited Liability Company, recorded in the aforesaid Clerk's Office in Deed Book 998 at page 460 (Lots 1-27 Harvest Hills).

PARCEL B:

All of the parcel known as Residue A, containing 115.857 acres after merger, as shown on Plat of Survey showing Merger Parcels for property of William P. Henderson, drawn by Appalachina Surveys, Inc., and recorded in the aforesaid Clerk's Office in Plat Cabinet 16, at Slide 69.

PARCEL C:

First Parcel: Known as the Manning Place, and described as follows according to a survey dated December 3, 1867, recorded in the Office of the Clerk of the County Court of Jefferson County, West Virginia, in Deed Book 2, Page 467, to wit:

Beginning at a stone, corner to Craven Trussell; thence with the said Trussell line N. 46 E. 115 poles crossing Elk Branch to Trussell and Miller's corner; thence with Miller's line N. 30 W. 36.5 poles; thence N. 36 W. 12 poles; thence N. 41 W. 12 poles; thence N. 44 – 30 W. 12 poles; thence N. 48 – 30 W. 12 poles; thence N. 51 – 30 W. 11.5 poles; thence N. 55 – 15 W. 12 poles; thence N. 60 W. 12 poles; thence N. 64 – 30 W. 12.7 poles; thence N. 69 – 45 W. 18 poles; thence N. 76 W. 18 poles to a stone on the south side of the railroad; thence leaving the railroad and running S. 03 – 25 W. 25.1 poles to the original corner of Manning and Duffield, a pile of stone, and the same course continued in all 219.6 poles to a pile of stone in Moor Hurst's line; and thence with the same S. 74 – 41 E. 116.1 poles to the beginning, containing 191 acres, more or less.

SUBJECT TO that certain Right-of-way to Potomac Light and Power Company recorded in the aforesaid Clerk's Office in Deed Book 268 at page 347.

Second Parcel:

Being a part of the Volney Hill Farm, described as follows according to a survey by J. Jas. Skinner, S.J.C., dated March 21, 1927, and of record in the aforesaid Clerk's Office in Deed Book 128 at page 429, to wit:

Beginning at a post (7), a corner to the first parcel and the residue of the Volney Hill Tract; thence with the lines of the first parcel S. 50 – 15 W. 77.4 pole to a post (8); thence N. 70 – 40 W. 95.6 poles to a post (9); thence leaving the first parcel S. 14 – 15 W. 73.1 poles to a post (10) in Michaels' line; thence with his line S. 72-40 E. 129.8 poles to a point at a Hakenberry Tree (11); corner with the residue o the Volney Hill Tract; thence with the latter N. 17 – 15 E. 100.6 poles to a stake (12); thence N. 25-15 E. 35.2 poles to the beginning, containing 65 acres, 0 roods and 32 poles, more or less.

SUBJECT TO the Shepherdstown Light & Water Co., easement recorded in the aforesaid Clerk's Office in Deed book 134 at page 213.

AND BEING the same real estate conveyed unto Arcadia Development Co., a California Corporation, from William P. Henderson by deed dated February 12, 2004, and recorded in the aforesaid Clerk's Office in Deed Book 985 at page 363.

LESS AND EXCEPTING THEREFROM, HOWEVER, the following outsales:

1. Deed to Jefferson County Parks and Recreation Commission, recorded in the aforesaid Clerk's Office in Deed Book 1031 at page 168 (Lot B, School Lot, containing 21.8085 acres)
2. Deed to Mt. Zion AME Church, recorded in the aforesaid Clerk's Office in Deed Book 1031 at page 172 (Lot C, Church Lot, containing 2.00 Acres).

PARCEL D:

All those certain parcels of real estate with any improvements thereon and appurtenances thereunto belonging, lying and situate in the Shepherdstown District, Jefferson County, West Virginia, and more particularly bounded and described, according to a survey and plat thereof, entitled "Plat of Resurveys Showing Property of William P. Henderson," dated August 25, 2003, by Appalachian Surveys of West Virginia, LLC and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Plat Book 23 at page 71, showing thereon as Lot 16 and 17, and including all of the Grantors right, title and interest in and to the existing right of way shown on said plat as Ex. Elk Street. The property conveyed herein comprises 0.99± access and is identified for property tax purposes as Tax Map 24A Parcels 16 and 17.

PARCEL E:

All that certain lot or parcel of real estate, with the improvements thereon and appurtenances thereunto belonging, situate near Duffields Depot in the Shepherdstown Magisterial District, Jefferson County, West Virginia, and designated as Lot 4, containing 0.2500 acres, more or less, on a plat of survey dated January 3, 2007, prepared by Terry Placanica, P.S., entitled "Plat of Resurvey, Property of Bruce Bowers, WB 14 P 251; DB 273 Pg 147, 'Drydensville' Plat - DB 96 PG 395, WB 8 PG 724" which said plat is recorded in the aforesaid Clerk's Office in Plat Book 24 at page 45, to which said plat reference is hereby made for a more complete and accurate description by metes and bounds of the parcels hereby conveyed. Reference is also hereby made to a plat of survey of Drydensville originally prepared by Jn. Hess in 1978, a copy of which said plat is attached to, made a part of and incorporated in a deed dated November 21, 1905, from Jonathan E. Burns, et ux., to George S. Houser, recorded in the aforesaid Clerk's Office in Deed Book 96 at page 392.

AND BEING a part of the real estate that was conveyed unto Arcadia Communities, Inc., by Confirmatory Deed dated July 23, 2012, and recorded in the aforesaid Clerk's Office in Deed Book 1114 at page 471.

PETER L CHAKHAKIAN LC
PO BOX 547
CHARLES TOWN, WV 25414-0547

Jennifer S Keaton
JEFFERSON County 11:54:20 AM
Instrument No 201600030313
Date Recorded 04/21/2016
Document Type DEED
Pages Recorded 16 / 2
Book-Page 1175-85
Recording Fee $22.00
Additional $6.00

THIS CONFIRMATORY DEED made this 11th day of January, 2016, by and between GARY ENDLER, as Trustee of the ARCADIA INTER VIVOS TRUST under Agreement dated the 19th day of October, 2015, hereinafter referred to as GRANTOR, and ARCADIA LAND, INC., a Virginia corporation, hereinafter referred to as GRANTEE.

WHEREAS, Arcadia Land, Inc., a Virginia Corporation, merged with the Arcadia Inter Vivos Trust, an inter vivos trust existing under the State of West Virginia, effective the 19th day of October, 2015, with Arcadia Land, Inc., being the surviving entity; and

WHEREAS, this Confirmatory Deed is made to effect and evidence the transfer of title to all real estate and to confirm that title thereto is now vested in Arcadia Land, Inc., by virtue of the merger, and is further made to comply with the requirements of the West Virginia Code.

NOW, THEREFORE, in consideration of the merger and other valuable consideration, the receipt of which are hereby acknowledged, Grantor GRANTS and CONVEYS to Grantee, with covenants of SPECIAL WARRANTY and against all liens and encumbrances, all if its rights, privileges, improvements, rights-of-way and appurtenances thereunto belonging or in anywise appertaining, situate in Jefferson County, West Virginia, and more particularly described as follows:

SEE ATTACHED LEGAL DESCRIPTION FOR PARCELS 1 AND 2.

THIS CONVEYANCE IS MADE SUBJECT TO all covenants, conditions, restrictions and easements of record or in existence.

DECLARATION OF CONSIDERATION OR VALUE

Under penalties of fine and imprisonment, as provided by law, the undersigned hereby declare that the transfer of real estate included in this document to which this

declaration is appended is a merger of a corporation and an inter vivos trust, and therefore, is exempt from the West Virginia Excise Tax on the Transfer of real estate.

WITNESS the following signatures and seals:

Arcadia Inter Vivos Trust

By: _____ (SEAL)
Gary Ensler, Its Trustee

Arcadia Land, Inc.

BY: _____ (SEAL)
Its President

STATE OF Virginia

COUNTY OF Loudoun, to wit:

I, Carla E. Coffey, a Notary Public within and for said County and State, do hereby certify that GARY ENDLER, Trustee, whose name is signed to the writing hereto attached, bearing date the 28th day of January, 2016, for ARCADIA INTER VIVOS TRUST, has this day in my said County, before me acknowledged the said writing to be the act and deed of said Inter Vivos Trust.

Given under my hand this 3rd day of February, 2016.

My commission expires: November 30, 2018

(Affix Notary Seal)

Notary Public

CARLA E. COFFEY
NOTARY PUBLIC
REG # 162680
MY COMMISSION EXPIRES
11/30/2018
COMMONWEALTH OF VIRGINIA

NO TITLE EXAMINATION WAS REQUESTED AND NO TITLE EXAMINATION WAS PERFORMED

THIS INSTRUMENT WAS PREPARED BY: Peter L. Chakmakian, Attorney at Law, PO Box 547, Charles Town, WV 25414

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT **CIVIL CODE § 1189**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)
County of Santa Clara)

On February 4, 2016 before me, Kathleen Schmidt Notary Public
Date *Here Insert Name and Title of the Officer*

personally appeared Eli Reinhard
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

KATHLEEN SCHMIDT
Commission # 2086302
Notary Public - California
Santa Clara County
My Comm. Expires Oct 31, 2018

Signature Kathleen Schmidt
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document
Title or Type of Document: Quitclaim Deed Document Date: 1/28/2016
Number of Pages: _____ Signer(s) Other Than Named Above: Gary Gaddis

Capacity(ies) Claimed by Signer(s)

Signer's Name: Eli Reinhard	Signer's Name:
☒ Corporate Officer — Title(s): President	☐ Corporate Officer — Title(s):
☐ Partner — ☐ Limited ☐ General	☐ Partner — ☐ Limited ☐ General
☐ Individual ☐ Attorney in Fact	☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator	☐ Trustee ☐ Guardian or Conservator
☐ Other:	☐ Other:
Signer Is Representing: Arcadia Land, LLC	Signer Is Representing:

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LEGAL DESCRIPTION

PARCEL 1: NORBORNE GLEBE aka ARCADIA CHASE

The following certain tracts or parcels of real estate with the improvements thereon, and all rights, ways and easements incident thereto, situate in City of Charles Town, Jefferson County, West Virginia, more particularly described as follows:

TRACT ONE:

1) All that certain lot or parcel of real estate which is more particularly bounded and described according to a survey and plat made by William H. Gordon Associates, Inc., dated April 12, 2007, and revised November 12, 2007, and March 24, 2008, entitled "Plat Showing Boundary Survey of Arcadia Development Co.", thereon described as "Parcel C-1" Arcadia Development Co., containing 1.89178 Acres, which said survey and plat is attached to and recorded with, and made a part of a deed recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Deed Book 1049 at page 444.

2) All that certain lot or parcel of real estate which is more particularly bounded and described according to a survey and plat made by William H. Gordon Associates, Inc., dated August 23, 2006, and revised August 30, 2006, November 30, 2006, November 12, 2007, and March 24, 2008, entitled "Plat Showing Boundary Survey of Arcadia Development Co.", thereon described as "Parcel C-2" Arcadia Development Co., containing 0.36132 Acres, which said survey and plat is attached to and recorded with, and made a part of a deed recorded in the aforesaid Clerk's Office in Deed Book 1049 at page 457.

3) All that certain lot or parcel of real estate which is more particularly bounded and described according to a survey and plat made by William H. Gordon Associates, Inc., dated April 13, 2007, and revised November 12, 2007, and March 24, 2008, entitled "Plat Showing Boundary Survey of Arcadia Development Co.", thereon described as "Parcel D" Arcadia Development Co., containing 1.62348 Acres, which said survey and plat is attached to and recorded with, and made a part of a deed recorded in the aforesaid Clerk's Office in Deed Book 1049 at page 449.

4) All that certain lot or parcel of real estate which is more particularly bounded and described according to a survey and plat made by William H. Gordon Associates, Inc., dated April 4, 2007, and revised April 20, 2007, June 27, 2007, September 14, 2007, November 9, 2007, and January 4, 2007, entitled "Final Plat of Parcels E, F & G, Norborne Glebe", which said survey and plat is recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Plat Book 25 at page 5, thereon described as Parcel G, containing 2.68361 Acres.

5) All that certain lot or parcel of real estate which is more particularly bounded and described according to a survey and plat made by William H. Gordon Associates, Inc., dated April 9, 2007, and revised April 16, 2007, June 27, 2007, September 14, 2007, October 4, 2007, November17, 2007, and December 20, 2007, entitled "Final Plat of Arcadia-Norborne Glebe, L.L.C.," which said survey and plat is recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Plat Book 25 at page 6, thereon described as Parcel H, containing 23.99832 Acres.

AND BEING the same parcels of real estate that were conveyed unto Arcadia Communities, Inc., a Virginia corporation by deed from Arcadia-NG Evitts Run, L.L.C., a West Virginia limited liability company acting by and through Robert O. Tyler, Chapter 7 Trustee for Arcadia-NG Evitts Run, L.L.C., and pursuant to an Order of the United States Bankruptcy Court for the Eastern District of Virginia Alexandria Division, dated February 29, 2012, and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, on March 20, 2012 in Deed Book 1105 at page 615.

TRACT TWO:

All that certain parcel of real property which is more particularly bounded and described according to a survey and plat made by William H. Gordon Associates, Inc., dated April 9, 2007, and revised April 16, 2007, June 27, 2007, September 14, 2007, October 4, 2007, November 17, 2007, and December 20, 2007, entitled "Final Plat of Arcadia-Norborne Glebe, L.L.C., which said survey and plat is recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Plat Book 25 at page 6, thereon described as Multi-Family Parcel I, containing 16.51715 Acres.

AND BEING the same real estate conveyed to Arcadia Communities, Inc., a Virginia corporation, by deed from Arcadia-NG Candlewood Drive, L.L.C., a West Virginia limited liability company, acting by and through Robert O. Tyler, Chapter 7 Trustee for Arcadia-NG Candlewood Drive, L.L.C., and pursuant to an Order of the United States Bankruptcy Court for the Eastern District of Virginia Alexandria Division, dated February 29, 2012, and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, on March 20, 2012, in Deed Book 1105 at page 608.

TRACT THREE:

All that certain parcel of real property which is more particularly bounded and described on a plat entitled "Final Plat of Arcadia-Norborne Glebe, LLC", made by William H. Gordon Associates, Inc., dated April 9, 2007, and revised April 16, 2007, June 27, 2007, September 14, 2007, October 4, 2007, November 17, 2007 and December 20, 2007, which said Plat is recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Plat Book 25 at page 6, thereon described as SWM Facility, Parcel J, containing 12.16 Acres.

AND BEING the same parcels of real estate that were conveyed unto Arcadia Communities, Inc., a Virginia corporation, by deed from Arcadia-Norborne Glebe, L.L.C., acting by and through Robert O. Tyler, Chapter 7 Trustee for Arcadia-Norborne Glebe, L.L.C., and pursuant to an Order of the United States Bankruptcy Court for the Eastern District of Virginia Alexandria Division, dated February 29, 2012, and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, on March 20, 2012, in Deed Book 1105 at page 624.

TRACT FOUR:

All those certain lots or parcels of real estate which are more particularly bounded and described according to a survey and plat made by William H. Gordon Associates, Inc., dated April 4, 2007, and revised April 20, 2007, June 27, 2007, September 14, 2007, November 9, 2007, and January 4, 2007, entitled "Final Plat of Parcels E, F & G, Norborne Glebe", which said survey and plat is recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Plat Book 25 at page 5, thereon described as Residue Area Parcel E, containing 14.04208 Acres and Parcel F, containing 4.41249 acres.

AND BEING a part of the real estate that was conveyed unto Arcadia Communities, Inc., a Virginia Corporation from the Arcadia *Inter Vivos* Trust, by deed dated July 23, 2012, and recorded in the aforesaid Clerk's Office in Deed Book 1114 at page 471.

TRACT FIVE:

All that certain tract or parcel of real estate which is more particularly bounded and described according to a survey and plat entitled "Plat of Correction Norborne-Glebe Phase 1" dated June 18, 2002 and revised through October 29, 2007, and recorded in the Office of the Clerk of the County Commission in Plat Book 25 at page 55, and described thereon as, thereon described as Residue Parcel 1A1.

AND BEING a part of the real estate that was conveyed unto Arcadia Communities, Inc., a Virginia Corporation from the Arcadia *Inter Vivos* Trust, by deed dated July 23, 2012, and recorded in the aforesaid Clerk's Office in Deed Book 1114 at page 471.

TRACT SIX:

All that certain tract or parcel of real estate which is more particularly bounded and described according to a survey and plat entitled "Plat of Correction Norborne-Glebe Phase 1" dated June 18, 2002 and revised through October 29, 2007, and recorded in the Office of the Clerk of the County Commission in Plat Book 25 at page 55, and described thereon as, thereon described as Residue containing 216.3 acres ±.

LESS AND EXCEPTING FROM THIS TRACT, HOWEVER, the following outsales:

1. Deed to Arcadia-Norborne Glebe, L.L.C., a West Virginia Limited Liability Company, recorded in the aforesaid Clerk's Office in Deed Book 979 at page 389, and by Deed of Correction recorded in the aforesaid Clerk's Office in Deed Book 1044 at page 722 (52.70475 acres).

2. Deed to Arcadia-Norborne Glebe Evitts Run, L.L.C., a West Virginia Limited Liability Company, recorded in Deed Book 1049 at page 454 (Parcel G, containing 2.68361 acres).

AND ALSO LESS AND EXCEPTING FROM THIS TRACT, the following:

3. All those certain lots or parcels of real estate which are more particularly bounded and described according to a survey and plat made by William H. Gordon Associates, Inc., dated April 4, 2007, and revised April 20, 2007, June 27, 2007, September 14, 2007, November 9, 2007, and January 4, 2007, entitled "Final Plat of Parcels E, F & G, Norborne Glebe", which said survey and plat is recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Plat Book 25 at page 5, thereon described as Parcels E and F.

3. All those certain parcels of real property contained in Phase 2A, Norborne Glebe Subdivision, as shown on the plat entitled "Final Plat of Norborne Glebe Phase 2A" dated April 18, 2006, revised through September 5, 2006, and recorded in the aforesaid Clerk's Office in Plat Book 23 at page 67, and described thereon as Lots 79-83, 88-89, 92-104, inclusive, Burberry Lane, Featherstone Drive and Campbell Drive.

4. All those certain parcels of real property contained in Phase 2, Norborne Glebe Subdivision, as shown on the plat entitled "Final Plat of Norborne Glebe Phase 2" dated May 8, 2006, revised through September 21, 2006, and recorded in the aforesaid Clerk's Office in Plat Book 23 at page 97, and described thereon as Lots 105-110, 140-159, 174-181, inclusive, Open Space Parcel A, Open Space Parcel B, Open Space Parcel C, Open Space Parcel D, Casorsa Drive, Seaton Lane, Campbell Drive, Santmyer Way and Candlewood Drive.

5. All those certain parcels of real property contained in Phase 3, Norborne Glebe Subdivision, as shown on the plat entitled "Final Subdivision Plat of Norborne Glebe Phase 3" dated June 19, 2013, and recorded in the aforesaid Clerk's Office in Plat Book 25 at page 405, and described thereon as Lots 90-91, 111-125, 133-139, 160-166, Open Space A, Open Space B, Barksdale Drive, Penticton Way, Stone Lane, Okanagan Drive.

6. All those certain parcels of real property contained in Phase 4, Norborne Glebe Subdivision, as shown on the plat entitled "Final Subdivision Plat of Norborne Glebe Phase 4" dated June 7, 2013, and recorded in the aforesaid Clerk's Office in Plat Book 25 at page 389, and described thereon as Lots 182-189, 205-218, 240-246, Open Space Parcel A, Open Space Parcel B, Open Space Parcel C, Open Space Parcel D, Courier Drive, Casorsa Drive, Tomworth Drive and Candlewood Drive.

7. All those certain parcels of real property contained in Phase 5, Norborne Glebe Subdivision, as shown on the plat entitled "Final Subdivision Plat of Norborne Glebe Phase 5"

dated September 9, 2013, and recorded in the aforesaid Clerk's Office in Plat Book 25 at page 502, and described thereon as Lots 126-132, 167-173, 190-204, 219-239, Open Space Parcel A, Open Space Parcel B, Open Space Parcel C, Courier Drive, Okanagan Drive, Graywood Lane and Barksdale Drive.

8. A portion of that certain parcel real property denoted as Residue on the plat entitled "Plat of Correction Norborne-Glebe Phase 1" dated June 18, 2002 and revised through October 29, 2007, and recorded in the Office of the Clerk of the County Commission in Plat Book 25 at page 55, containing13, 127 square feet, more or less, and described as follows:

Beginning at a point along the southerly line of Courier Drive as shown on the plat entitled "Final Subdivision Plat of Norborne Glebe Phase 4" dated June 7, 2013, and recorded in the aforesaid Clerk's Office in Plat Book 25 at page 389, and being the northeasterly corner of Lot 240 as described thereon; thence with the southerly line of Courier Drive thence SOUTH 78°43'27" EAST 78.61 FEET to a point; thence continuing with the southerly line of Courier Drive as shown on the plat entitled "Final Subdivision Plat of Norborne Glebe Phase 5" dated September 9, 2013, and recorded in the aforesaid Clerk's Office in Plat Book 25 at page 502 SOUTH 78°43'27" EAST 30.78 FEET to a point being the northwesterly corner of Lot 239 as shown on said plat; thence departing Courier Drive and running with the westerly line of Lot 239 SOUTH 11°16'33" WEST 120.00 FEET to the southwesterly corner of Lot 239; thence departing Lot 239 and running through the above referenced Residue NORTH 78°43'27" WEST 109.39 FEET to the southeasterly corner of Lot 240 referenced above; thence with said Lot 240 NORTH 11°16'33" EAST 120.00 FEET to the point of beginning.

TOGETHER WITH a non-exclusive easement across the right of way easements and roads contained in the subdivision shown on the aforementioned plats of phases 2, 2a, 3, 4 and 5 of Norborne Glebe Subdivision for the purpose of ingress and egress between the property and the public road and non-exclusive easements within the sanitary sewer, sewer, storm drain, and waterline easements as shown on the aforesaid plats of phases 1, 2, 2a, 3, 4 and 5 of Norborne Glebe Subdivision for the purpose of the conveyance of storm water, sewer and water in connection with future development of this Parcel 1.

AND BEING a part of the real estate that was conveyed unto Arcadia Communities, Inc., a Virginia Corporation from the Arcadia *Inter Vivos* Trust, by deed dated July 23, 2012, and recorded in the aforesaid Clerk's Office in Deed Book 1114 at page 471.

It is the intention that this TRACT SIX contain all the property to the south of SWM Facility Parcel J as it is shown on the Plat entitled "Final Plat of Arcadia-Norborne Glebe, L.L.C." dated April 9, 2007, revised through November 17, 2007, and recorded in the aforesaid Clerk's Office in Plat Book 25 at page 6; to the south of the southern boundary of the property depicted on the plats for Phases 4 and 5 of Norborne Glebe Subdivision as shown on the respective plats for these phases and to the south of the parcel described in item 8 of the less and excepting provisions above. The following is a more particular description of the TRACT SIX:

Beginning at an iron rod found as shown on a plat by William H. Gordon and Associates, Inc. recorded in the Office of the Clerk of the Jefferson County Court, WV in Plat Book 25, at page 6; thence with eleven (11) lines shown on said plat,

S 53°11'17" E 80.18' to an 18" x 5/8" rebar set; thence

S 76°15'10" E 829.04' to an 18" x 5/8" rebar set; thence

S 18°47'53" E 199.75' to an 18" x 5/8" rebar set; thence

N 71°12'07" E 70.68' to an 18" x 5/8" rebar set; thence with a curve to the left, Chord Bearing = **N 62°58'09" E**, Chord Distance = **481.87-feet**, Radius = **1682.55-feet**,

Arc Length = **483.53-feet**, to an 18" x 5/8" rebar set; thence with a curve to the left,

Chord Bearing = **N 2°25'32" E**, Chord Distance = **39.57-feet**, Radius = **25.17-feet**, Arc Length = **45.51-feet**, to an 18" x 5/8" rebar set; thence,

N 49°53'08" W 370.03' to an 18" x 5/8" rebar set; thence with a curve to the left,

Chord Bearing = N 70°49'04" W, Chord Distance = 17.86-feet, Radius = 25.00-feet, Arc Length = 18.27-feet, to an 18" x 5/8" rebar set; thence with a curve to the right,

Chord Bearing = N 12°05'14" W, Chord Distance = 147.57-feet, Radius = 75.00-feet, Arc Length = 208.58-feet, to an 18" x 5/8" rebar set; thence with a curve to the left,

Chord Bearing = N 46°25'04" E, Chord Distance = 18.05-feet, Radius = 25.00-feet, Arc Length = 18.47-feet, to an 18" x 5/8" rebar set; thence,

N 25°15'27" E 228.06' to a 5/8" iron rebar & cap set as shown on a plat by Greenway Engineering, Inc. recorded in said Clerk's Office in Plat Book 25, at page 389; thence with three lines as shown on said plat,

S 64°44'33" E 100.00' to a 5/8" iron rebar & cap set; thence,

S 63°55'08" E 36.35' to a 5/8" iron rebar & cap set; thence,

S 78°43'27" E 619.72' to a 5/8" iron rebar & cap set; thence with a new line of division,

S 78°43'27" E 109.39' to a 5/8" iron rebar & cap set as shown on a plat by Greenway Engineering, Inc. and recorded in said Clerk's Office in Plat Book 25, at page 502; thence with five (5) lines shown on said plat,

S 78°43'27" E 805.86' to a 5/8" iron rebar & cap set; thence

S 13°38'48" W 6.85' to a 5/8" iron rebar & cap set; thence

S 76°21'12" E 50.00' to a 5/8" iron rebar & cap set; thence

N 13°38'48" E 41.77' to a 5/8" iron rebar & cap set; thence

S 76°21'12" E 154.55' to an unmarked point in a line shown on a plat by Huntley, Nyce & Associates, Ltd. and recorded in said Clerk's Office in Plat Book 25, at page55; thence

S 14°57'11" W 1636.80' (distance is shown on previously mentioned plat by Greenway Engineering, Inc. in Plat Book 25, at page 502) to a 5/8" rebar set; thence with fourteen (14) lines shown on said Huntley, Nyce & Associates, Ltd. plat,

S 14°21'21" W 1439.82' to a 5/8" rebar set; thence

N 37°36'18" W 1941.74' to a 5/8" rebar set; thence

S 46°12'55" W 113.77' to a 5/8" rebar set; thence

N 52°25'11" W 719.96' to a 5/8" rebar set; thence

S 39°53'45" W 930.74' to a point (no corner identification on plat); thence

N 42°47'30" W 307.02' to a point (no corner identification on plat); thence

N 8°48'52" E 973.35' to a 5/8" rebar set; thence

N 11°11'38" E 88.43' to a 5/8" rebar set; thence

N 17°16'04" E 101.95' to a 5/8" rebar set; thence

N 20°12'45" E 101.93' to a 5/8" rebar set; thence

N 24°49'31" E 101.95' to a 5/8" rebar set; thence

N 29°28'14" E 61.00' to a 5/8" rebar set; thence

N 33°47'00" E 40.99' to a 5/8" rebar set; thence

N 36°48'39" E 79.69' (bearing is as shown on said Huntley, Nyce & Associates, Ltd. plat in Plat Book 25, at page 55 and distance is as shown on a plat by Appalachian Surveys, Inc. recorded in Plat Book 9, at page 38) to the point of beginning, containing an area of 127.19 Acres, more or less.

With the compilation of the dimensions shown on the record plats, this description does not close geometrically. The closing bearing and distance is S 88°56'37" E 0.58'. All corners called for in this description are as shown on the plats of record. No field survey was performed for this description.

PARCEL 2: HARVEST HILLS aka ARCADIA DOWNS

TRACT ONE:

All those certain tracts or parcels of real estate with the improvements thereon, situate in Shepherdstown District, Jefferson County, West Virginia, more particularly described as follows:

PARCEL A:

Lots 2, 3, 4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24 and 26 Harvest Hills, as more particularly designated and described upon a plat entitled "Final Plat showing Lots 1-27 HARVEST HILLS" prepared by Appalachian Surveys, Inc., dated May, 1999, and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Plat Book 17 at pages 45A and 45B.

PARCEL B:

Lots 1 and 2 of the William P. Henderson Minor Subdivision as more particularly shown on that plat showing the William P. Henderson Minor Subdivision dated September, 1997, as prepared by Appalachian Surveys, Inc., and recorded in the aforesaid Clerk's Office in Plat Book 15 at page 83. LESS AND EXCEPTING, therefrom Merger Parcel B, consisting of 0.205 acres and Merger Parcel C, consisting of 0.271 acres, as more particularly described in the Deed of Merger dated June 8, 1999, and recorded in the aforesaid Clerk's Office in Deed Book 927 at page 231. TOGETHER WITH Merger Parcel A, consisting 0.142 acres and Merger Parcel D, consisting of 0.501 acres, as more particularly described in that Deed of Merger dated June 8, 1999, and recorded in the aforesaid Clerk's Office in Deed Book 927 at page 234.

AND BEING the same real estate conveyed unto Arcadia Communities, Inc., by deed from Arcadia-Harvest Hills, LLC, dated February 29, 2012, and recorded in aforesaid Clerk's Office in Deed Book 1105 at page 600.

TRACT TWO:

All those tracts or parcels of real estate, lying and being in the Shepherdstown District, Jefferson County, Virginia, situate near Duffields, and more particularly described as follows:

PARCEL A:

Being all of "Residue B" containing 45.364 acres, as shown on a plat entitled "Plat of Survey showing Merger Parcels from Property of William P. Henderson" drawn by Appalachian Surveys, Inc., dated May 18, 1999, said plat being recorded in the aforesaid Clerk's Office in Plat Book 15 at page 83, LESS AND EXCEPTING THEREFROM, HOWEVER, the following outsale:

Deed to Arcadia-Harvest Hills, LLC, a West Virginia Limited Liability Company, recorded in the aforesaid Clerk's Office in Deed Book 998 at page 460 (Lots 1-27 Harvest Hills).

PARCEL B:

All of the parcel known as Residue A, containing 115.857 acres after merger, as shown on Plat of Survey showing Merger Parcels for property of William P. Henderson, drawn by Appalachina Surveys, Inc., and recorded in the aforesaid Clerk's Office in Plat Cabinet 16, at Slide 69.

PARCEL C:

First Parcel: Known as the Manning Place, and described as follows according to a survey dated December 3, 1867, recorded in the Office of the Clerk of the County Court of Jefferson County, West Virginia, in Deed Book 2, Page 467, to wit:

Beginning at a stone, corner to Craven Trussell; thence with the said Trussell line N. 46 E. 115 poles crossing Elk Branch to Trussell and Miller's corner; thence with Miller's line N. 30 W. 36.5 poles; thence N. 36 W. 12 poles; thence N. 41 W. 12 poles; thence N. 44 – 30 W. 12 poles; thence N. 48 – 30 W. 12 poles; thence N. 51 – 30 W. 11.5 poles; thence N. 55 – 15 W. 12 poles; thence N. 60 W. 12 poles; thence N. 64 – 30 W. 12.7 poles; thence N. 69 – 45 W. 18 poles; thence N. 76 W. 18 poles to a stone on the south side of the railroad; thence leaving the railroad and running S. 03 – 25 W. 25.1 poles to the original corner of Manning and Duffield, a pile of stone, and the same course continued in all 219.6 poles to a pile of stone in Minor Hurst's line; and thence with the same S. 74 – 41 E. 116.1 poles to the beginning, containing 191 acres, more or less.

SUBJECT TO that certain Right-of-way to Potomac Light and Power Company recorded in the aforesaid Clerk's Office in Deed Book 268 at page 347.

Second Parcel:

Being a part of the Volney Hill Farm, described as follows according to a survey by J. Jas. Skinner, S.J.C., dated March 21, 1927, and of record in the aforesaid Clerk's Office in Deed Book 128 at page 429, to wit:

Beginning at a post (7), a corner to the first parcel and the residue of the Volney Hill Tract; thence with the lines of the first parcel S. 50 – 15 W. 77.4 pole to a post (8); thence N. 70 – 40 W. 95.6 poles to a post (9); thence leaving the first parcel S. 14 – 15 W. 73.1 poles to a post (10) in Michaels' line; thence with his line S. 72-40 E. 129.8 poles to a point at a Hakenberry Tree (11); corner with the residue o the Volney Hill Tract; thence with the latter N. 17 – 15 E. 100.6 poles to a stake (12); thence N. 25-15 E. 35.2 poles to the beginning, containing 65 acres, 0 roods and 32 poles, more or less.

SUBJECT TO the Shepherdstown Light & Water Co., easement recorded in the aforesaid Clerk's Office in Deed book 134 at page 213.

AND BEING the same real estate conveyed unto Arcadia Development Co., a California Corporation, from William P. Henderson by deed dated February 12, 2004, and recorded in the aforesaid Clerk's Office in Deed Book 985 at page 363.

LESS AND EXCEPTING THEREFROM, HOWEVER, the following outsales:

1. Deed to Jefferson County Parks and Recreation Commission, recorded in the aforesaid Clerk's Office in Deed Book 1031 at page 168 (Lot B, School Lot, containing 21.8085 acres)
2. Deed to Mt. Zion AME Church, recorded in the aforesaid Clerk's Office in Deed Book 1031 at page 172 (Lot C, Church Lot, containing 2.00 Acres).

PARCEL D:

All those certain parcels of real estate with any improvements thereon and appurtenances thereunto belonging, lying and situate in the Shepherdstown District, Jefferson County, West Virginia, and more particularly bounded and described, according to a survey and plat thereof, entitled "Plat of Resurveys Showing Property of William P. Henderson," dated August 25, 2003, by Appalachian Surveys of West Virginia, LLC and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia, in Plat Book 23 at page 71, showing thereon as Lot 16 and 17, and including all of the Grantors right, title and interest in and to the existing right of way shown on said

plat as Ex. Elk Street. The property conveyed herein comprises 0.99± access and is identified for property tax purposes as Tax Map 24A Parcels 16 and 17.

PARCEL E:

All that certain lot or parcel of real estate, with the improvements thereon and appurtenances thereunto belonging, situate near Duffields Depot in the Shepherdstown Magisterial District, Jefferson County, West Virginia, and designated as Lot 4, containing 0.2500 acres, more or less, on a plat of survey dated January 3, 2007, prepared by Terry Placanica, P.S., entitled "Plat of Resurvey, Property of Bruce Bowers, WB 14 P 251; DB 273 Pg 147, 'Drydensville' Plat – DB 96 PG 395, WB 8 PG 724" which said plat is recorded in the aforesaid Clerk's Office in Plat Book 24 at page 45, to which said plat reference is hereby made for a more complete and accurate description by metes and bounds of the parcels hereby conveyed. Reference is also hereby made to a plat of survey of Drydensville originally prepared by Jn. Hess in 1978, a copy of which said plat is attached to, made a part of and incorporated in a deed dated November 21, 1905, from Jonathan E. Burns, et ux., to George S. Houser, recorded in the aforesaid Clerk's Office in Deed Book 96 at page 392.

PARCELS 1 AND 2 BOTH BEING a part of the real estate that was conveyed unto Arcadia Inter Vivos Trust, by Deed dated October 19, 2015, and recorded in the aforesaid Clerk's Office in Deed Book 1163 at page 351.

AGENDA REQUEST FORM

www.jeffersoncountywv.org

Name: **Todd Wilt**

Department or Organization: **City of Ranson**

Estimation of amount of time needed for appointment: **15 minutes**

Date Requested – 1st Choice: **First Available**
If a specific date is needed, please provide reason for specific date:

Date Requested – 2nd Choice:

Subject (*Wording to be placed on agenda*): **City of Ranson, Annexation of District 2; Map 08; Parcel 29.3, Parcel ID: 0008-0029-0003**

Please provide the County Commission with a description of your request or presentation, including any background information:

Request of property owner, Estate of Jeffrey Clarence Haymaker, Deceased to annex 3.0 acres into the City of Ranson

Is this a funding request? Y/N **NO**
If so, how much? $
Provide exact financial impact/request:

Recommended motion (*Please type out the wording of the motion that you would like the Commission to approve*):

Move that the proposed Order Approving and Confirming the Annexation to the City of Ranson a parcel of real estate containing 3.0 acres, more particularly described as the Subject Property in the municipal corporation's Certificate dated January 2, 2024, presently located in the Charles Town District, Jefferson County, West Virginia, and owned by Estate of Jeffrey Clarence Haymaker, Deceased, as provided by West Virginia Code §§ 8-6-4 & 8-6-4a (Annexation Without an Election).

Attach supporting documents for request, or request may be denied. **Supporting Documents Attached**
If not attached, explain:

Is equipment needed? Projector Y/**N** Internet/Wi Fi Y/**N** Telephone for conference call Y/**N**

Contact Information: **Todd Wilt**
Email address: twilt@ransonwv.us Phone Number: **304-725-1010**

FOR COMMISSION STAFF USE ONLY – FINANCIAL IMPACT/RECOMMENDATION

City of Ranson

312 South Mildred Street
Ranson, West Virginia 25438-1621
Phone (304) 725-1010 | Fax (304) 728-8579

Keith D. Pierson - Mayor

Council Members:
Mike Anderson
Andy Colandrea
Tommy Custer
Amanda Stroud
Herbie McDaniel
Ken Suits

January 3,2024

Jefferson County Commission
Attn: County Administrator, Edwina Benites
Post Office Box 250
Charles Town, WV 25414

Re: Request for Inclusion on County Commission Agenda

Dear Mrs. Benites,

Enclosed please find a completed Agenda Request Form along with a Certificate from the City of Ranson, West Virginia to annex real estate without an election. Also enclosed is a proposed Order Approving and Confirming the Annexation to the City of Ranson.

I request that this Certificate be included on the first available agenda of the County Commission.

Thank you for reviewing and considering this request. If you have any questions, please do not hesitate to reach out to Todd Wilt by email at twilt@ransonwv.us or by phone at 304-725-1010.

Sincerely,

Todd Wilt
City Manager

Enclosures

An Ordinance of the Ranson City Council, to Annex 3.0 Acres of Land into the City of Ranson, Pursuant to §8-6-4a. Annexation Without Election for Municipalities in Counties that have an Adopted Countywide Zoning Ordinance Which Includes Urban Growth Boundaries and to Zone the Annexed Land as New Community, Transect District 4 (T4).

Whereas, West Virginia Code §8-6-4a authorizes municipalities that have adopted countywide zoning with urban growth boundaries, to annex property using the following procedure; (c) Procedure for a municipality to annex property within an urban growth boundary. (1) If the proposed property to be annexed by a municipality is entirely within the municipality's designated urban growth boundary, then the municipality may annex without an election the proposed property pursuant to the provisions of §8-6-4 of this code. Agreement with the county commission is not required.

Whereas, §8-6-4 authorizes the governing body of a municipality to, by ordinance, provide for the annexation of additional territory without ordering a vote on the question if: (1) a majority of the qualified voters of the additional territory file with the governing body a petition to be annexed; and (2) a majority of freeholders of the additional territory, whether they reside or have a place of business within or not, file with the governing body a petition to be annexed;

Whereas, for purposes of this section of law, the term "qualified voter of the additional territory" includes firms and corporations in the additional territory regardless of whether the firm or corporation is a freeholder, and the petition may be signed by any officer duly designated by the firm;

Whereas, on June 16, 2023 the Estate of Jeffrey Clarence Haymaker, Deceased submitted a Freeholder Petition for Annexation requesting annexation of ± 3.00 acres of property located in District 2; on Map 08; shown as Parcel 29.3 further described as Jefferson County, West Virginia, Map/Parcel# 0008-0029-0003 to be annexed into the municipal boundary of the City of Ranson.

Whereas, it is the responsibility of the governing body to enumerate and verify the total number of eligible petitioners and, when satisfied that the petition is sufficient in every respect, shall enter that fact upon its journal and forward a certificate to that effect to the county commission;

Whereas, the Jefferson County Commission shall subsequently enter an order and the corporate limits of the municipality shall be as set forth therein;

Whereas, the land proposed for annexation is located wholly within the Ranson's currently designated and approved Urban Growth Zone.

Whereas, the Estate of Jeffrey Clarence Haymaker, Deceased, is identified as the only freeholders and qualified voters of the property proposed for annexation and the applicant has submitted a written and signed petition to the City of Ranson attesting to the same;

Whereas,, annexation of this land into the municipal boundaries and zoning it for New Community, Transect District 4 (T4) use will allow for continued orderly growth in an area where similar growth is occurring and the intended use of this parcel will continue that same pattern of growth; and

Whereas, the proposed annexation and zoning has been determined to be consistent with the city's comprehensive plan by the Ranson Planning Commission on October 2, 2023;

NOW, THEREFORE BE IT ORDAINED BY THE CITY OF RANSON, that the municipality finds the applicant's petition for annexation and zoning to be sufficient in every respect; and

LET IT BE FURTHER ORDAINED BY THE CITY OF RANSON, that the municipality approves and ordains the requested annexation of approximately 3.0 acres of land owned by the Estate of Jeffrey Clarence Haymaker, deceased into the corporate boundaries and recommends a zoning map amendment allowing for New Community, Transect District 4 (T4) use on the property.

This Ordinance shall take effect upon enactment.

Adopted on First Reading: December 19, 2023

Public Hearing: January 2, 2024

Adopted on Second Reading: January 2, 2024

Enacted this 2nd day of January 2024

Keith D. Pierson

ATTEST:

Darla Armstrong
City Clerk

AFFIX CITY SEAL

CERTIFICATE OF THE CITY OF RANSON, WEST VIRGINIA TO ANNEX WITHOUT AN ELECTION UNDER THE PROVISIONS OF WEST VIRGINIA CODE §§ 8-6-4 & 8-6-4a A PARCEL OF REAL ESTATE CONTAINING APPROXIMATELY 3.0 ACRES PRESENTLY LOCATED IN THE CHARLES TOWN DISTRICT, JEFFERSON COUNTY, WEST VIRGINIA, DESCRIBED WITH MORE PARTICULARITY IN THE OFFICE OF THE CLERK OF THE COUNTY COMMISSION OF JEFFERSON COUNTY, WEST VIRGINIA, IN DEED BOOK 1261, AT PAGE 61, et seq., AND OWNED BY ESTATE OF JEFFREY CLARENCE HAYMAKER, DECEASED.

WHEREAS, Estate of Jeffrey Clarence Haymaker, Deceased is the owner of a parcel of real estate containing approximately 3.0 acres presently located in the Charles Town District, Jefferson County, West Virginia, and more particularly described as follows (hereinafter, the "Subject Parcel"):

Parcel One:

All that certain parcel of real estate and the appurtenances thereunto belonging, situate about two (2) miles northeast of Charles Town, in the Charles Town District of Jefferson County, West Virginia, and located on the north side of the public road leading from Charles Town to Harpers Ferry known as U.S. Route 340, (1) containing three (3) acres, and being more particularly designated and described in accordance with a survey and plat thereof made by Oliver Cump & Associates, Inc. dated February 23, 1976, entitled "Outsale Lot For Shendo Limited Partnership" and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia in Deed Book 403 at Page 328.

BEING a portion of Parcel 1 conveyed to the City of Charles Town by Gerald A.Miller by deed dated December 28, 2000, of record in the Office of the Clerk of the County Commission of Jefferson County, West Virginia in Deed Book 944, Page 3.

CURRENT PROPERTY ADDRESS: 19-02-0008-0029-0003, (OFF OLD COUNTRY CLUB RD) Charles Town, WV 25414

AND BEING the same parcel of real estate conveyed to Jeffery Haymaker from the City of Charles Town by deed dated May 19, 2021, and recorded in the aforesaid Clerk's Office in Deed Book 1261, at Page 61 (a copy of which deed is attached hereto as Exhibit A).

WHEREAS, Estate of Jeffrey Clarence Haymaker, Deceased requested annexation of the Subject Parcel into the City of Ranson (the "City") as evidenced by a Petition for Annexation and Zoning dated June 16, 2023 (the "Petition"), a copy of which Petition is attached hereto as Exhibit A; and

WHEREAS, West Virginia Code ("Code") Section 8-6-4a provides for annexation without election and applies to municipalities in counties that have adopted a countywide zoning ordinance with designated urban growth boundaries and, prior to January 1, 2009, have adopted local impact fees pursuant to the

provisions of Code Section 7-2-1, *et seq.*; Jefferson County, West Virginia, has adopted a countywide zoning ordinance with designated urban growth boundaries and has, prior to January 1, 2009, adopted local impact fees; and Code Section 8-6-4a is accordingly applicable to the City; and

WHEREAS, Code Section 8-6-4a(c)(1) provides that, if property proposed to be annexed is entirely within a municipality's designated urban growth boundary, the municipality may annex the property without an election pursuant to Code Section 8-6-4 and, in such case, the agreement of the county commission is not required; the Subject Parcel is entirely within the City's Urban Growth Boundary; and the City may accordingly annex the Subject Parcel pursuant to Code Section 8-6-4 without the agreement of the Jefferson County Commission; and

WHEREAS, Code Section 8-6-4(a) provides that the governing body of a municipality may, by ordinance, provide for annexation of additional territory without an election if both a majority of the qualified voters of the territory and a majority of all freeholders of the additional territory file a petition to be annexed, Code Section 8-6-4(b) provides that "qualified voters of the additional territory" includes firms and corporations in the additional territory, and Code Sections 8-6-4(d) and 8-6-4(f), respectively, provide that a qualified voter of the additional territory who is also a freeholder of the additional territory may join only one petition and that only a voter's petition is required if all of the eligible petitioners are qualified voters; as represented by Estate of Jeffrey Clarence Haymaker, Deceased and verified by the City, Estate of Jeffrey Clarence Haymaker, Deceased is the sole owner, sole qualified voter, and sole freeholder of the Subject Parcel; and the single Petition submitted by Estate of Jeffrey Clarence Haymaker, Deceased accordingly satisfies the petition requirement of Code Section 8-6-4; and

WHEREAS, three boundaries, comprising a majority of the property boundary of the Subject Parcel are adjacent to and contiguous with the existing corporate boundary of the City of Ranson, and the proposed annexation is consistent with the City's Comprehensive Plan; and

WHEREAS, Code Section 8-6-4(g) provides that, if satisfied that a petition is sufficient in every respect, the governing body of a municipality shall enter that fact upon its journal and forward to the county commission a certificate to that effect, and the county commission shall thereupon enter an order as described in Code Section 8-6-3, following which the corporate limits of the municipality shall include the annexed property; by Ordinance duly adopted January 2, 2024, a copy of which is attached hereto as Exhibit A, the Council of the City found the Petition to be sufficient in every respect and approved the requested annexation of the Subject Parcel; and, accordingly, the City thereby provided for annexation of the Subject Parcel into the City pursuant to the provisions of Code Sections 8-6-4, Annexation without an election, and 8-6-4a, Annexation without election for municipalities in counties that have an adopted countywide zoning ordinance which includes urban growth boundaries, subject only to the final Order of the Jefferson County Commission recognizing said annexation;

NOW, THEREFORE, this Certificate certifies that: (i) the representations set forth herein are true and accurate to the best knowledge, information, and belief of the City; (ii) all of the applicable requirements of Code Sections 8-6-3, 8-6-4, and 8-6-4a have been met with regard to the Petition; (iii) the Petition filed by Estate of Jeffrey Clarence Haymaker, Deceased, as the sole owner, qualified

voter, and freeholder of the Subject Parcel, is sufficient in every respect in regard to the annexation into the City of the Subject Parcel; (iv) that the Council of the City has by Ordinance provided for annexation of the Subject Parcel; and (v) a copy of this Certificate, together with a copy of said Ordinance, has been filed with the records of the City; and

AND FURTHER, as required by Code Sections 8-6-3 and 8-6-4, this Certificate is hereby filed with the Jefferson County Commission for entry of an Order as required pursuant to West Virginia Code Sections 8-6-4(g) and 8-6-4a(h);

WHEREFORE, the City of Ranson prays that the County Commission of Jefferson County, West Virginia, enter an Order, as described in Code Section 8-6-3 and as required by Code Sections 8-6-4(g) and 8-6-4a(h), reflecting the annexation and modification to the corporate limits of the City by addition thereto of the Subject Parcel and ordering that such annexation by the City be approved and confirmed.

Dated this 2 day of January, 2024.

CITY OF RANSON, WEST VIRGINIA, a municipal corporation,

Keith D. Pierson
Mayor

Attest:

Darla Armstrong
City Clerk

IN THE COUNTY COMMISSION OF JEFFERSON COUNTY, WEST VIRGINIA

ORDER APPROVING AND CONFIRMING THE ANNEXATION TO THE CITY OF RANSON A PARCEL OF REAL ESTATE CONTAINING APPROXIMATELY 3.0 ACRES PRESENTLY LOCATED IN THE CHARLES TOWN DISTRICT, JEFFERSON COUNTY, WEST VIRGINIA, AND OWNED BY ESTATE OF JEFFREY CLARENCE HAYMAKER, DECEASED, AS PROVIDED BY WEST VIRGINIA CODE §§ 8-6-4 & 8-6-4a (ANNEXATION WITHOUT AN ELECTION).

This _____ day of _____, 2024, came the City of Ranson, West Virginia, a municipal corporation, and moved the County Commission of Jefferson County, West Virginia, to approve and confirm the annexation by the City of Ranson of one parcel of real estate consisting of 3.0 acres and more particularly described as follow (hereinafter, the "Subject Parcel"):

Parcel One:

All that certain parcel of real estate and the appurtenances thereunto belonging, situate about two (2) miles northeast of Charles Town, in the Charles Town District of Jefferson County, West Virginia, and located on the north side of the public road leading from Charles Town to Harpers Ferry known as U.S. Route 340, (1) containing three (3) acres, and being more particularly designated and described in accordance with a survey and plat thereof made by Oliver Cump & Associates, Inc. dated February 23, 1976, entitled "Outsale Lot For Shendo Limited Partnership" and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia in Deed Book 403 at Page 328.

BEING a portion of Parcel 1 conveyed to the City of Charles Town by Gerald A.Miller by deed dated December 28, 2000, of record in the Office of the Clerk of the County Commission of Jefferson County, West Virginia in Deed Book 944, Page 3.

CURRENT PROPERTY ADDRESS: 19-02-0008-0029-0003, (OFF OLD COUNTRY CLUB RD) Charles Town, WV 25414

AND BEING the same parcel of real estate conveyed to Jeffery Haymaker from the City of Charles Town by deed dated May 19, 2021, and recorded in the aforesaid Clerk's Office in Deed Book 1261, at Page 61.

It appearing by the Certificate of the City of Ranson ("Certificate") filed this date with the Jefferson County Commission and by a Petition for Annexation of the Subject Parcel by the property owner dated June 16, 2023 and attached to said Certificate, that the sole owner and freeholder of the Subject Parcel has requested that the hereinabove referred to real estate be annexed to and become a part of the City of Ranson.

It further appearing that the Certificate of the governing body of the municipality of Ranson was this day filed showing that the annexation has been made in the manner required by law, to the corporate limits thereof, and that by such annexation the said corporate limits should be increased to include the Subject Parcel more particularly described above.

It further appearing from the said Certificate that three boundaries of the Subject Parcel are adjacent to and contiguous with the existing corporate boundary of Ranson.

It further appearing that the Subject Parcel is entirely within the City of Ranson's Urban Growth Boundary, and, according to the governing body of the municipality, the annexation is consistent with the City of Ranson's Comprehensive Plan.

It is therefore ORDERED that such annexation to said corporate limits be and the same is hereby APPROVED and CONFIRMED, and the Clerk of the Jefferson County Commission is directed to deliver to the governing body of the City of Ranson a certified copy of this Order as soon as practicable.

This Order shall take effect this _____ day of ___ ___ ., 2024.

JEFFERSON COUNTY COMMISSION

By: _____
Steve Stolipher, President

Dated this _____ day of _____, 2024.

ATTEST:

_____
Clerk of the County Commission of
Jefferson County, West Virginia

HOY SHINGLETON
LAW OFFICE OF HOY SHINGLETON
115 AIKENS CENTER SUITE 24
MARTINSBURG WV 25404-6210

Jefferson County
Jacqueline C Shadle, Clerk
Instrument 202100008916
05/24/2021 @ 10:04:32 AM
DEED
Book 1261 @ Page 61
Pages Recorded 3
Recording Cost $ 26.00

After Recording Please Return To:
Law Offices of Hoy Shingleton, L.C.
115 Aikens Center, Suite 24
Martinsburg, WV 25404

DEED

THIS DEED made and entered into this 19 day of May, 2021, by and between, **CITY OF CHARLES TOWN,** a municipal corporation, Grantor and party of the first part, and **JEFFREY HAYMAKER,** Grantee and party of the second part.

WITNESSETH: That for and in consideration of the sum of Ten Dollars ($10.00) cash in hand paid, the receipt of which is hereby acknowledged, and other good and valuable consideration, the receipt of which is also hereby acknowledged, the said party of the first part does hereby bargain, sell, grant and convey unto the party of the second part, with Covenants of General Warranty in fee simple, together with all rights, improvements, privileges, rights-of-way and appurtenances thereunto belonging, the following described lot, tract, or parcel of real estate, situate, lying and being in Charles Town Magisterial District, Jefferson County, West Virginia, being more particularly described as follows, to-wit:

All that certain parcel of real estate and the appurtenances thereunto belonging, situate about two (2) miles northeast of Charles Town, in the Charles Town District of Jefferson County, West Virginia, and located on the north side of the public road leading from Charles Town to Harpers Ferry known as U.S. Route 340, (1) containing three (3) acres, and being more particularly designated and described in accordance with a survey and plat thereof made by Oliver Cump & Associates, Inc. dated February 23, 1976, entitled "Outsale Lot For Shendo Limited Partnership" and recorded in the Office of the Clerk of the County Commission of Jefferson County, West Virginia in Deed Book 403 at Page 328, TOGETHER WITH a non-exclusive easement over all of the streets and roads of Patrick Henry Subdivision as well as the existing un-platted right-of-way for access to and from this parcel. The un-platted right-of-way may be relocated, at Grantor's expense, for future building plans of the Grantor's and its assigns.

AND BEING a portion of Parcel 1 conveyed to the City of Charles Town by Gerald A.

Miller by deed dated December 28, 2000, of record in the Office of the Clerk of the County Commission of Jefferson County, West Virginia in Deed Book 944, Page 3.

THIS CONVEYANCE IS MADE SUBJECT, HOWEVER, to all those reservations, restrictions, easements and other matters of record or in existence.

By Ordnance adopted by the Council of the City of Charles Town on November 16, 2020 the City was authorized to sell the herein described parcel of real estate by public auction to the highest bidder. At said public auction the real estate was sold to Jeffrey Haymaker for the sum of thirty thousand and 00/100 Dollars ($30,000).

DECLARATION OF CONSIDERATION OR VALUE:

Under penalties of fine and imprisonment as provided for by law, the undersigned do hereby declare that the total consideration paid for the transfer of real estate by the document to which this declaration is appended is exempt – transfer from a political subdivision of the state of West Virginia.

WITNESS the following signature and seal.

CITY OF CHARLES TOWN

ATTEST: _____
City Clerk

By: _____
Its: Mayor

STATE OF WEST VIRGINIA
COUNTY OF JEFFERSON, to wit:

The foregoing instrument was acknowledged before me on this 19 day of May, 2021, by Robert Trainor, Mayor of the City of Charles Town.

_____
Notary Public
My Commission Expires: June 12, 2025

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
Carolyn M. Vezzoni
City of Charles Town
101 E. Washington Street
Charles Town, WV 25414
My Commission Expires June 12, 2025

This instrument was prepared without title examination by: The Law Offices of Hoy Shingleton, L.C., 115 Aikens Center, Suite 24, Martinsburg, WV 25404, T: (304) 262-4773 F: (304) 262-4775

FREEHOLDER PETITION FOR ANNEXATION

I, THE UNDERSIGNED, BEING THE FREEHOLDER OF PROPERTY SITUATED WITHIN THE AREA OF PROPOSED ANNEXATION,

HEREBY: PETITION THE CITY COUNCIL OF THE CITY OF RANSON, JEFFERSON COUNTY, WEST VIRGINIA, ASKING SAID COUNCIL TO ANNEX ADDITIONAL TERRITORY TO THE CITY OF RANSON PURSUANT TO THE PROVISIONS OF CHAPTER 8, ARTICLE 6, SECTION 4 OF THE CODE OF WEST VIRGINIA, AS AMENDED. THE PRECISE ADDITIONAL TERRITORY SOUGHT TO BE ANNEXED TO THE CITY OF RANSON IS THE TERRITORY SHOWN ON THE ATTACHED MAP OR PLAT AND FURTHER DESCRIBED BY COURSES AND DISTANCES, AS SHOWN UPON SAID PLAT AS REQUIRED BY LAW.

I PETITION THE CITY COUNCIL OF THE CITY OF RANSON TO PROCEED TO ANNEX THE SAID TERRITORY AND TO TAKE ALL ACTS REQUIRED BY LAW TO EFFECT SUCH ANNEXATION UNDER THE PROVISIONS OF CHAPTER 8, ARTICLE 6, SECTION 4 AND CHAPTER 8, SECTION 4A OF THE CODE OF WEST VIRGINIA.

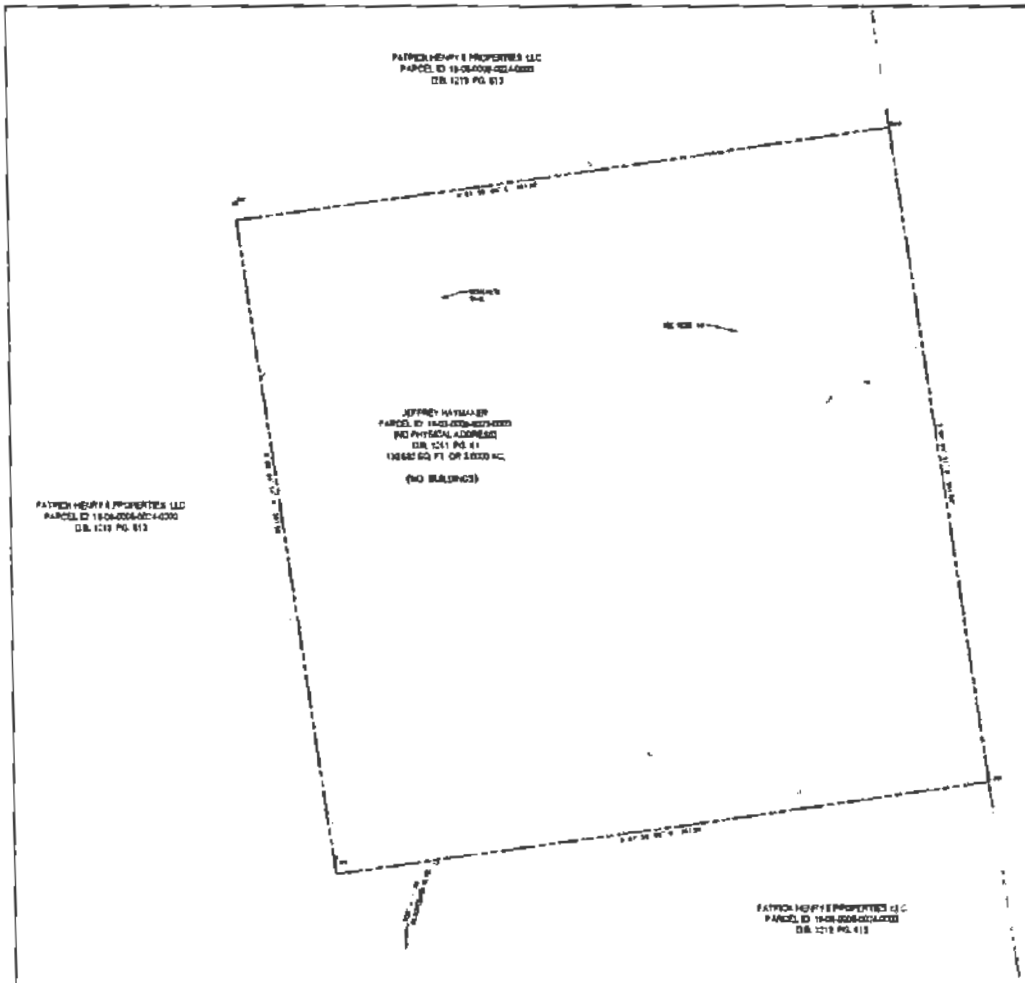
EXHIBIT A
List of Freeholders

I, the undersigned Freeholder, hereby PETITION the Ranson City Council, pursuant to W.Va. Code §8-6-4, to annex into the City of Ranson the area comprising ± 3.00 acres, including the parcels listed below and as further described in Exhibit "B", attached.

CHARLES TOWN DISTRICT, JEFFERSON COUNTY

Map/Parcel #	**Owner/Freeholder Signature and printed name**
0008-0029-0003	Jeffrey Haymaker 6/16/2023 Joleen Haymaker Administratrix of the Estate of Jeffrey Clarence Haymaker, Deceased

EXHIBIT B
Map or Plat
(see attached)



LEGEND

- (A) PROPERTY LINE
- (B) ADJACENT PROPERTY LINE
- (C) EASEMENT
- (D) SURVEY MARKER
- (E) BOUNDARY MONUMENT
- (F) UTILITY POLE
- (G) FENCE LINE
- (H) IRON PIN FOUND

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE COUNTY OF JEFFERSON, STATE OF WEST VIRGINIA, AND DESCRIBED AS FOLLOWS:

SITUATE ABOUT TWO (2) MILES NORTHEAST OF CHARLES TOWN, IN CHARLES TOWN DISTRICT OF JEFFERSON COUNTY, WEST VIRGINIA, AND LOCATED ON THE NORTH SIDE OF THE PUBLIC ROAD LEADING FROM CHARLES TOWN TO HARPERS FERRY KNOWN AS W.V. ROUTE 340, CONTAINING THREE (3) ACRES, AND BEING MORE PARTICULARLY DESCRIBED AND DELINEATED IN ACCORDANCE WITH A SURVEY AND PLAT THEREOF ENTITLED "SURVEY AND PLAT FOR SPECIAL EXCEPTION PURPOSES" DATED FEBRUARY 23, 1974, PREPARED BY WILLIAM F. FLACK, III, L.S. NO. 540, OF DAVID L. KNEP & ASSOCIATES, INC., A COPY OF SAID PLAT BEING RECORDED IN THE OFFICE OF THE CLERK OF THE COUNTY COMMISSION OF JEFFERSON COUNTY, WEST VIRGINIA IN DEED BOOK 405 AT PAGE 339.

TOGETHER WITH A NON-EXCLUSIVE EASEMENT OVER ALL OF THE STREETS AND ROADS OF PATRICK HENRY SUBDIVISION AS WELL AS THE EXISTING UN-PLATTED GRAVEL ROAD FOR ACCESS TO AND FROM THE ABOVE-DESCRIBED PARCEL, EXPRESSLY HOWEVER, TO THE RIGHTS OF OTHER OWNERS IN THE CHAIN OF TITLE TO RELOCATE THE UN-PLATTED GRAVEL ROAD, AT THE EXPENSE OF THE SAID PRESENT OWNERS, FOR FUTURE BUILDING PLANS OF THE SAID PRESENT OWNERS AND THEIR ASSIGNS.

BEING THE SAME PROPERTY CONVEYED UNTO JEFFREY HAYMAKER, FROM CITY OF CHARLES TOWN, A MUNICIPAL CORPORATION, BY DEED DATED MAY 28, 2021, AND RECORDED IN THE CLERK'S OFFICE ON MAY 24, 2021 AT 10:04 A.M., IN DEED B.OOK 1291, AT PAGE 91.

ALTA/NSPS LAND TITLE SURVEY
OF THE PROPERTY OF
JEFFREY HAYMAKER
D.B. 1251 PG. 61
CHARLES TOWN DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
[illegible]
LEESBURG, VA 20177
PHONE, 703-[illegible]
MRA234.COM

Copyright 2021 Morris & Ritchie Associates, Inc.

DATE	REVISIONS

VERSION 1

AGENDA REQUEST FORM

Name: Douglas Rockwell

Department or Organization: N/A

Estimation of amount of time needed for appointment: 15 minutes

Date Requested – 1st Choice: JAN 18, 2024
If a specific date is needed, please provide reason for specific date:

Date Requested – 2nd Choice: Feb 1, 2024

Subject (*Wording to be placed on agenda*):

Payment of Attorney fees And costs for C.A. Nos. CC-19-2021 C-33, 34, 35, 364

Please provide the County Commission with a description of your request or presentation, including any background information:

See Attached

Is this a funding request? Y/N
If so, how much? $ 57,146.85
Provide exact financial impact/request:

Recommended motion (*Please type out the wording of the motion that you would like the Commission to approve*):

See Attached

Attach supporting documents for request, *or request may be* denied.
If not attached, explain: See Attacheed

Is equipment needed? NO Projector Y/N Internet/Wi Fi Y/N Telephone for conference call Y/N

Contact information: Douglas Rockwell EMAil-CDRockwell@hotmail.com
Email address: ~~CDRockwell@hotmail.com~~ Phone Number: 304-724-6845

FOR COMMISSION STAFF USE ONLY – FINANCIAL IMPACT/RECOMMENDATION

Rockwall Request Form Attachment

As explained by others Any Amendment to the existing zoning ordinance must be consistent with the Comprehensive Plan. VV Code 8A the ~~Plan~~ PLAN requires that A non-Agricultural related commercial use (utility scale Solar facility) follow A CUP process in the Rural zone. this Commission has Acknowledged this requirement. See the Attached pages 14 & 77 of the Plan and memo.

On Oct 1, 2020, by a 3-2 vote, this Commission Adopted ZTA 19-03 Solar Energy Facilities Allowing utility Scale facilities, AS A permitted use in eight zoning districts including the Rural zone. I And others filed A law Suit challenging this Amendment And, After negotiations, the Commission in Dec. 2020 withdrew the Amendment by A vote of 3-2.

On ~~April~~ April 12, 2021 the Commission, with new members, by A 3-1 vote Adopted ZTA 19-03 Solar Energy Facilities without change. Again I And others filed Civil Action Nos. CC-19-2021 C-33, 34, 35, 36 And 37, Challenging the Amendment And seeking Attorney fees And costs. Solar developers Wild Hill And Horst (Blake Farm) joined the suit. The County And Wild Hill Appealed the ruling

Against the Commission. In addition to the ruling against the County, the Court suggested it would consider a request for Attorney fees & Los After extensive negotiations the Appeals were dismissed.

Motion

Motion to pay Douglas Rockwell the amount of the attached invoice ($57,146.85) in full satisfaction of the Attorney fees and costs incurred in Civil Actio Nos. CC-19-2021-C-33, 34, 35, 36 & 37. This motion will result in savings to the County of Additional Costs if Mr Rockwell is forced to proceed with his ~~claim~~ claim.

Jefferson County's percentage of arable agricultural land is 54.7%, more than any other county in West Virginia. That affords the County a rich mix of urban, suburban. and agricultural environments. With that consideration in mind, the Plan strengthens proposals related to its historic farming community's economic growth. It recommends potential amendments to the Zoning Ordinance and Subdivision Regulations, which will support a more robust agricultural and artisan economy through a diversity of uses. This Plan proposes a higher density cluster provision rather than allowing rural residential developments via the Land Evaluation Site Assessment (LESA) system / Conditional Use Permit (CUP) process; and to allow the use of the a more traditional CUP process in the Rural District for non-residential uses which are compatible in scale and intensity with the rural environment and that pose no threat to public health. safety, and welfare.

What are Goals, Objectives, and Recommendations?

Goals are general guidelines that broadly describe what the community wishes to achieve over the period of the Comprehensive Plan. Goals are generally bigger in scope than objectives.

Objectives are the types of actions or activities that are recommended in order to attain the goals.

Recommendations are implementation strategies that are specific steps that would be undertaken to achieve the goals and objectives. They can involve regulatory processes or actions that provide a means for the goals and objectives to be achieved.

Goals and Objectives are what a community wishes to achieve. Recommendations are implementation strategies of how a community looks to achieve them.

Agricultural and Rural Economy Recommendations (Goal 8)	
1.	Support West Virginia's and Jefferson County's "Right to Farm" policies which protect the rights of existing and future farms and farmers by developing zoning standards, other legislation, and educational programs designed to reduce potential conflicts arising from the proximity of agriculture to residential development (State Code § 19-19; Section 4.5 of the County's Zoning Ordinance).
	a. Identify and utilize a wider variety of funding sources that could serve to expand the County's farmland protection program.
	b. Create an educational pamphlet informing developers, realtors, and potential homeowners of the offsite impacts of living adjacent to farming activities.
2.	Enact Zoning Ordinance provisions to reduce the intensity of residential development in the Rural zone, other than by clustering, thereby protecting and increasing the investment potential and attractiveness of the agricultural lands for families, entrepreneurs, and businesses.
	a. Decrease the problems of rural traffic volume and the need for additional costly public infrastructure services in rural areas while conserving areas of the Rural zone for agricultural uses and the rural economy through support for rural cluster development vs large subdivisions of new home growth.
3.	Support the rural economy by amending the Subdivision Regulations to establish rural business site plan standards to include:
	a. performance criteria, including compatible size, scale, use, intensity, traffic capacity limits, employee limits, site design standards (i.e. buffering, siting), and standards that protect public health, safety, and welfare; and
	b. the adaptive reuse of existing historic and agricultural structures.
4.	Collaborate with the County's agricultural community to assess the current land use regulations and determine what opportunities for agriculture might currently exist and what additional opportunities might be able to succeed in Jefferson County.
5.	Amend the Zoning and Land Development Ordinance to permit additional non-residential rurally compatible uses.
	a. Incorporate into the zoning provisions innovative agricultural uses including the creation of standards which permit flexibility in the sale of farm products and related auxiliary products.
	b. Amend local land use regulations to permit non-agriculturally related commercial uses by the Conditional Use Permit (CUP) process in the Rural zone if the use is agriculturally and rurally compatible in scale and intensity, poses no threat to public health, safety, and welfare, and if the use helps to preserve farmland and open space and continue agricultural operations.

JEFFERSON COUNTY, WEST VIRGINIA

Office of Planning and Zoning

116 East Washington Street, 2nd Floor
P.O. Box 716
Charles Town, WV25414

www.jeffersoncountywv.org

Email: planningdepartment@jeffersoncountywv.org
zoning@jeffersoncountywv.org

Phone: (304) 728-3228
Fax: (304) 728-8126

MEMO

TO: Planning Commission

***FROM*: Alexandra Beaulieu, Zoning Administrator**

DATE: 07-09-19

RE: ZTA19-01, Special Event Facilities

On April 9, 2019, the Planning Commission made a motion to accept into their work plan Quintina Reddington's request to create a text amendment to allow an event facility in the Rural zoning district.

Staff has received a number of inquiries to establish event venues, typically for weddings and similar types of receptions/celebrations. Since the adoption of Section 8.14 in 2014, which allows for a Rural Event Facility in an existing structure, it has been brought to our attention that converting existing barns is cost prohibitive due to the requirements set forth in Building Code; however, under the current regulations, there are no provisions to process a newly constructed event facility in the Rural zoning district.

The draft amendment before you today proposes two types of event facilities. An Agricultural Special Event Facility, which mimics the intent of the existing provisions in Section 8.14 but proposes additional text for clarity such as a minimum acreage and that the use be accessory to an existing farm.

The second type of facility is a Special Event Facility, which is a facility that operates independent from any other use on the property. A Special Event Facility would require processing a Conditional Use Permit to operate in the Rural, Residential Growth, and Village zoning districts. The proposed text includes criteria for the Board of Zoning Appeals to consider when reviewing an application such as the proposed frequency of events, maximum building capacity, signage, etc. Requiring a Conditional Use Permit for this land use is consistent with the County Commission's 2018 revision to Appendix C to allow most Commercial Uses to process as a Conditional Use in these zoning districts. Staff also found that the proposed text is consistent with the Envision Jefferson 2035 Comprehensive Plan's recommendation to "Amend the Zoning and Land Development Ordinance to permit additional non-residential rurally compatible uses." (recommendation 5, page 77 of the Plan.)

The proposed text is also consistent with the Plan's recommendation 5.b to "Amend local land use regulations to permit non-agriculturally related commercial uses by the Conditional Use Permit (CUP) process in the Rural zone if the use is agriculturally and rurally compatible in scale and intensity, poses no threat to public health, safety, and welfare, and if the use helps preserve farmland and open space and continue agricultural operations.

The Law Office of Kathy M. Santa Barbara, PLLC
518 West Stephen Street
Martinsburg, WV 25401
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304-264-0000

EIN#: 45-1142244

Invoice submitted to:
Mr. and Mrs. Douglas Rockwell
P.O. Box 727
Charles Town, WV 25414

July 12, 2023
In Reference To: **Civil Action Nos: CC-19-2021-C-33, 34, 35, 36, 37**
v.Jefferson County Planning Commission
Re:. Michael Shepp
Jefferson County Commission
Stanley W. Dunn, Jr.
Richard Zeigler
Robyn Schneiderman

Invoice # 24070

Professional Services

			Hrs/Rate	Amount
Time				
3/9/2021	KSB	E-mails from Mr. Rockwell; conference with legal assistant re: same; download Planning Commission documents; listen to relevant Planning Commission meeting; e-mail to Attorneys Cochran and Rohrbaugh; teleconference with Mr. Rockwell.	0.75 300.00/hr	225.00
3/23/2021	KSB	Work on Petition for Certiorari; review Planning Commission documents.	2.00 300.00/hr	600.00
	KSB	Teleconference with Mr. Rockwell.	0.25 300.00/hr	75.00
3/25/2021	KSB	Brief teleconference with Mr. Rockwell; review memo of law; telephone call from Mr. Aitcheson; draft Request to Planning Commission re: document certification.	0.75 300.00/hr	225.00
	CLM	Conference with counsel; e-mail to Jefferson County Planning Commission with copy to Attorney Cochran; teleconference with Ms. Johns at Planning Commission to confirm receipt; e-mail from Planning Commission confirming receipt.	0.25 75.00/hr	18.75
3/26/2021	KSB	Work on Petition; search PACER agenda packets re: first two siding with Dunn; complete Petition; revise Verifications and send to all petitioners; e-mails to Mr. Rockwell; teleconference with Mr.	1.75 300.00/hr	525.00

			Hrs/Rate	Amount
		Rockwell.		
3/28/2021	KSB	E-mails from and to Mr. Curry; e-mails from Mr. Perry and Mr. Burke; make Mr. Rockwell's revisions to Petition and reply to e-mail; brief teleconference with Mr. Rockwell.	0.50 300.00/hr	150.00
3/29/2021	CLM	Conference with counsel re: Verifications, exhibits and revisions needed to Petition.	0.25 75.00/hr	18.75
3/30/2021	KSB	Conference with legal assistant re: new Verifications from Aitcheson and Curry; begin draft of Motion for Stay.	0.75 300.00/hr	225.00
	CLM	Conference with counsel re: Verifications and service addresses; e-file Verified Petition for each Plaintiff (x5) with Court.	1.50 75.00/hr	112.50
	KSB	Work on Motion for Stay; research re: statutory interpretation.	0.75 300.00/hr	225.00
3/31/2021	KSB	Draft Notice to be served with complaint on Notice Defendants; complete Motion for Stay; e-mail to Mr. Rockwell; brief teleconference with Mr. Rockwell; e-mail to Attorney Crawley-Woods.	1.50 300.00/hr	450.00
	CLM	Compile service documents for all Defendants; memo to and from process server re: same.	0.75 75.00/hr	56.25
4/2/2021	KSB	Draft Motion and proposed Order re: filing under lead case only; conference with legal assistant re: returns and attaching Notices as served on notice defendants; e-mails to and from Attorney Cochran with motion and proposed Order and revisions to same; conference with legal assistant re: motion and order.	1.00 300.00/hr	300.00
	KSB	Draft FOIA request re: Stolipher to Ethics Commission.	0.25 300.00/hr	75.00
	CLM	Prepare Returns of Service (x30); memo to and from process server re: same; conference with counsel; meet with process server to execute Returns; e-file Motion to Consolidate and proposed Order in all five civil actions; e-file Returns of Service in lead case.	2.50 75.00/hr	187.50
4/3/2021	CLM	E-file Service Returns for all defendants (x24) for case numbers (34 to 37).	0.50 75.00/hr	37.50
4/5/2021	KSB	E-mail to all petitioners with copy of all pleadings and status.	0.25 300.00/hr	75.00
4/6/2021	KSB	E-mail to Mr. Rockwell re: Notice of Appearance for Zigler; e-mail from Attorney Miller and reply.	0.25 300.00/hr	75.00
	KSB	E-mail from Attorney Cochran and reply re: proceedings.	0.25 300.00/hr	75.00

			Hrs/Rate	Amount
4/6/2021	KSB	Review of Court Order; teleconference with Mr. Rockwell; draft Verifications; e-mail to all petitioners with same; draft Amended Petition; draft Motion for Injunctive Relief.	3.75 300.00/hr	NO CHARGE
4/7/2021	KSB	Complete motion; draft Temporary Restraining Order; conference with legal assistant re: exhibits; e-mail from Judge's law clerk re: hearing and counsel for parties and reply; e-mails from and to law clerk and counsel.	2.25 300.00/hr	NO CHARGE
	CLM	Conference with counsel; teleconference with Mr. Aitcheson re: verifications; conference with counsel re: send verification for Motion; e-file Amended Petition with Court; e-file Motion for Temporary Restraining Order and Preliminary Injunction and proposed Order with Court; e-mail to Attorney Cochran re: same.	0.50 75.00/hr	37.50
4/8/2021	KSB	Review of order and brief review of Wild Hill filings; e-mail to Mr. Rockwell; conference with legal assistant re: Zoning Admin Subpoena; teleconferences with Mr. Rockwell; pull relevant agenda items from Planning Commission website; compile list of documents for Zoning Admin subpoena.	1.75 300.00/hr	525.00
4/9/2021	KSB	Draft Supplement to Motion for Temporary Restraining Order; e-mail to Mr. Rockwell with same; teleconference with Mr. Rockwell; revise Supplement; conference with legal assistant re: same; compile list of documents for zoning Administrator's subpoena duces tecum.	1.25 300.00/hr	375.00
	KSB	E-mail to all petitioners re: status and hearing.	0.25 300.00/hr	75.00
	CLM	Conference with counsel; prepare exhibit to supplemental Motion; e-file Supplemental Motion for Temporary Restraining Order and Preliminary Injunction and proposed Order with Court; e-mail to Attorney Cochran with same.	0.50 75.00/hr	37.50
4/12/2021	KSB	Review of County and Wild Hill's Opposition to Temporary Restraining Order; return telephone call to Mr. Aitcheson; draft Second Amended Petition with Open Meetings language; draft Exhibit A to Attorney Cochran's subpoena; e-mail to clients; attend Virtual County Commission meeting; teleconference with Mr. Rockwell; e-mail to clients.	2.50 300.00/hr	750.00
	CLM	Prepare Subpoenaes; conference with counsel re: same; memo to and from process server re: service of subpoenas.	0.25 75.00/hr	18.75
	CLM	Memo from process server re: service of subpoenaes; prepare affidavits of Service re: same; brief meeting with process server to execute and notarize same; e-file affidavit of service with Court.	0.50 75.00/hr	37.50
4/13/2021	CLM	Memo from process server re: perfected service of subpoenaes; prepare Affidavits of Service; brief meeting with process server to execute and notarize same; e-file Affidavits of Service with Court.	0.50 75.00/hr	37.50

			Hrs/Rate	Amount
4/15/2021	KSB	Review of Notice from Attorney Cochran; draft proposed Order; e-mail to Mr. Rockwell re: same; e-mail from Mr. Rockwell.	1.00 300.00/hr	300.00
4/16/2021	KSB	E-mail from Mr. Aitcheson and reply; teleconference with Mr. Rockwell re: Order and Notice; review e-mail from Attorney Cochran re: Notice; review Order submitted by Attorney Cochran; e-mail to Attorney Cochran with my proposed Order; long teleconference with Attorney Cochran to revise Order; draft letter to Judge re: joint order forthcoming; e-mails from and to Attorney Cochran with amended Order; brief review of Wild Hill and Horus Motions to Intervene; e-mail to Mr. Rockwell with Order entered by Judge; teleconference with Mr. Rockwell; attempts to reach Attorney Cochran; e-mail to Attorney Cochran with revised Order; review vacated Order; e-mail to Mr. Rockwell re: same.	1.75 300.00/hr	525.00
	CLM	Conference with counsel; e-file letter to Judge.	0.25 75.00/hr	18.75
4/19/2021	KSB	E-mail from Attorney Cochran; revise Order and e-mail to Attorney Cochran; memo to legal assistant re: filing.	0.25 300.00/hr	75.00
4/20/2021	CLM	E-file Agreed Order with Notice of Pending Litigation with Court.	0.25 75.00/hr	18.75
4/21/2021	KSB	E-mail to clients with Order; e-mail from Mr. Aitcheson and reply	0.25 300.00/hr	75.00
4/27/2021	KSB	Review of Response to Show Cause.	0.25 300.00/hr	75.00
4/28/2021	KSB	Review of Motions to Intervene and [redacted] memo; review several cases cited; check Jefferson County land records and screen shot; draft Response in Opposition to Motions to Intervene.	3.50 300.00/hr	1,050.00
4/29/2021	KSB	E-mail from Attorney McCluskey and reply; conference with legal assistant re: service of opposition and contacting Mr. Rockwell.	0.25 300.00/hr	75.00
4/30/2021	KSB	Teleconference with legal assistant re: filing Response to Motions to Intervene and exhibit to same.	0.25 300.00/hr	75.00
	CLM	Conference with counsel; e-file Response to Wild Hill's Motion to Intervene with Court; e-file Response to Horus WV I's Motion to Intervene with Court; serve per Certificate of Service.	0.50 75.00/hr	37.50
	CLM	E-file Opposition to Motions to Intervene.	0.25 75.00/hr	18.75
5/10/2021	KSB	E-mail from Attorney Aitcheson; e-mail from Mr. Burke and reply; e-mail to all petitioners re: hearing time on May 12th; review of cases cited by Wild Hill in Motion; pull additional cases for review;	1.25 300.00/hr	375.00

			Hrs/Rate	Amount
		pull relevant pleadings for review.		
5/11/2021	KSB	Draft proposed Order denying intervention; review Wild Hill and Horus' motions to intervene and replies and check cases cited therein.	2.25 300.00/hr	675.00
5/12/2021	KSB	Prepare for oral arguments re: motion to intervene; travel to Charles Town, conference with clients, conference with opposing counsel; conference with clients; court appearance; conference with Attorney Rohrbaugh; return to office.	3.50 300.00/hr	1,050.00
5/13/2021	KSB	Teleconference with Mr. Rockwell re: CUP determination and briefing; review e-mail from Attorney Rohrbaugh; review proposed Order; e-mail to all counsel re: dates; teleconference with Attorney Barton; telephone call to Attorney Snowden's voicemail; telephone call to Attorney Rohrbaugh's voicemail; teleconference with Attorney Snowden; teleconference with Attorney Rohrbaugh.	1.25 300.00/hr	375.00
5/20/2021	KSB	Teleconference with Mr. Rockwell; teleconference with Attorney Rohrbaugh; teleconference with Mr. Rockwell; e-mail to Mr. Rohrbaugh re: certified record.	0.75 300.00/hr	225.00
5/24/2021	KSB	E-mail from Mr. Rockwell; pull agenda items referenced in e-mail; e-mail from Attorney Rohrbaugh.	0.25 300.00/hr	75.00
6/4/2021	KSB	Draft Motion for Stay; conference with legal assistant re: same; e-mail to Zoning Administrator re: request for certified copies and reply; e-mail to Attorneys Cochran and Rohrbaugh.	1.75 300.00/hr	525.00
6/6/2021	KSB	Review of e-mail from Mr. Rockwell; download Wild Hill Solar packet; download certified record; telephone call to Mr. Rockwell's voicemail; review of Special Events and Commercial Cemeteries memo from Planner to PACER; and review of documents in agenda packet for June 8 concept plan review.	1.25 300.00/hr	375.00
6/7/2021	KSB	Teleconference with Mr. Rockwell; begin review of notation of certified record.	1.50 300.00/hr	450.00
6/8/2021	KSB	Continued review of certified record.	2.00 300.00/hr	600.00
6/9/2021	KSB	Continued review of certified record and meeting recordings; e-mails to Attorney Rohrbaugh re: missing records online and in DropBox; begin draft of Brief.	4.50 300.00/hr	1,350.00
6/11/2021	KSB	Follow-up e-mail to Attorneys Rohrbaugh and Cochran; e-mail from Attorney Rohrbaugh.	0.25 300.00/hr	75.00
6/12/2021	KSB	Review of additional recordings; work on brief; further research re: writ of certiorari and prohibition, open meetings and ethics issues; e-mail to Mr. Rockwell and Mr. Aitcheson with factual background.	7.50 300.00/hr	2,250.00

			Hrs/Rate	Amount
6/13/2021	KSB	Work on brief; review of Mr. Rockwell's notes; brief teleconference with Mr. Rockwell; amend facts to include additional conflict information; review May 5th recording; work on brief.	8.75 300.00/hr	2,625.00
6/14/2021	KSB	Amend facts; work on brief; review of Wild Hill and County responses to pleadings; work on brief; compile exhibit; conference with legal assistant re: same; complete brief; conference with legal assistant re: filing and exhibits.	12.50 300.00/hr	3,750.00
	CLM	Conference with counsel; compile exhibits; scan in and e-file Petitioner's Brief and exhibits (filed in 4 parts due to size) with Court.	1.50 75.00/hr	112.50
6/15/2021	KSB	E-mails to all clients with brief and exhibits.	0.25 300.00/hr	75.00
6/25/2021	KSB	Draft Amended Petitions; draft Motion for Leave to Amend; conference with legal assistant re: same.	2.00 300.00/hr	600.00
	CLM	Conference with counsel; e-file Motion to Amend Petitions with Court.	0.25 75.00/hr	18.75
7/6/2021	KSB	Brief teleconference with Mr. Rockwell; review Horus Memo of Law.	0.75 300.00/hr	225.00
7/7/2021	KSB	Review of Wild Hill and County's Responses; pull and briefly review cases cited by other parties.	2.50 300.00/hr	750.00
7/8/2021	KSB	Begin review of case law cited in Response Briefs.	2.50 300.00/hr	750.00
7/9/2021	KSB	Complete Reply Brief.	6.50 300.00/hr	1,950.00
	CLM	Conference with counsel; e-file Reply Brief with Court.	0.25 75.00/hr	18.75
7/13/2021	KSB	Teleconference with Mr. Rockwell; begin to prepare for oral argument.	3.50 300.00/hr	1,050.00
7/14/2021	KSB	Complete prep for oral argument; travel to Charles Town, attend oral argument; return to office.	5.00 300.00/hr	1,500.00
7/21/2021	KSB	Work on draft of reply and pull additional cases and review for same.	2.75 300.00/hr	825.00
	KSB	Research and work on brief.	2.25 300.00/hr	675.00
7/22/2021	KSB	Teleconference with Mr. Rockwell; revise into; draft Reply brief to include arguments re: causes of action and address arguments of respondents; conference with legal assistant re: filing.	6.75 300.00/hr	2,025.00

			Hrs/Rate	Amount
7/22/2021	SLF	E-file Letter to Judge.	0.25 75.00/hr	18.75
7/23/2021	KSB	E-mail to and from Judge McLaughlin's assistant with my pleadings in Word format.	0.25 300.00/hr	75.00
	KSB	Draft proposed Order re: Amendment of Petitions.	0.75 300.00/hr	225.00
7/28/2021	KSB	E-mails from and to Judge's assistant and counsel re: TEAMS hearing date and time.	0.25 300.00/hr	75.00
	KSB	Review of hearing order and order re: amendment; check 4/12/21 minutes vs. recording; e-mail to Mr. Rockwell and Mr. Aitcheson re: same; research WV law re: effect of approved meeting minutes.	1.75 300.00/hr	525.00
	CLM	Conference with counsel; telephone calls to Jefferson County Commission office re: signed minutes - left voicemails.	0.25 75.00/hr	18.75
7/29/2021	KSB	Research re: Attorney fees and review cases re: same and meeting minutes; teleconferences with Mr. Rockwell; conference with legal assistant re: contacting court's assistant re: participation in hearing by clients; attend virtual hearing; teleconference with Mr. Rockwell.	2.50 300.00/hr	750.00
	CLM	Teleconference with Jessica at Jefferson County Commission office re: need signed copy of April 12 minutes; conference with counsel re: same.	0.25 75.00/hr	18.75
7/30/2021	KSB	Review of e-mail from Mr. Rockwell; teleconference with Mr. Rockwell; e-mail to all counsel.	0.25 300.00/hr	75.00
8/3/2021	KSB	Review of responses of Wild Hill, Horus and County to Amended Complaint; e-mail to Mr. Rockwell and Mr. Aitcheson with same.	0.25 300.00/hr	75.00
8/16/2021	KSB	Review of Order; e-mail to clients with same.	0.50 300.00/hr	150.00
8/17/2021	KSB	Research case law re: attorney fee recovery in declaratory judgment action against governmental entity, pull cases and review; begin draft of memo of law re: same.	3.50 300.00/hr	1,050.00
8/18/2021	KSB	E-mail from Mr. Aitcheson; e-mail to editor of Observer with copy of Order at request of Mr. Aitcheson; long teleconference with Attorney Kennedy re: Rule 59(e) motion and his thoughts re: PC involvement before county commission and assistance he can provide; teleconference with Mr. Rockwell; return telephone call to Mr. Pierson.	0.75 300.00/hr	225.00
8/19/2021	KSB	Work on Memo of Law.	0.50 300.00/hr	150.00

			Hrs/Rate	Amount
8/23/2021	KSB	Email from Mr. Aitcheson and reply; return telephone call from Attorney Gay re: testifying as to Pitrolo factors; email order to Attorney Gay; second email from Mr. Aitcheson.	0.50 300.00/hr	150.00
8/24/2021	KSB	E-mail from Mr. Aitcheson; teleconference with Mr. Rockwell; telephone call to Mr. Aitcheson's voicemail; attempt to attend Planning Commission special meeting via Zoom.	0.50 300.00/hr	150.00
	KSB	Work on draft of factual background for Memo of Law re: attorney fees.	0.75 300.00/hr	225.00
8/31/2021	KSB	E-mail from Mr. Aitcheson and Mr. Rockwell; e-mail to Mr. Rockwell and Mr. Aitcheson.	0.25 300.00/hr	75.00
9/9/2021	KSB	Teleconference with Mr. Aitcheson; check JCPC minutes to confirm Stolipher there in 2012; draft Affidavit; e-mail to Mr. Aitcheson with same; teleconference with Mr. Aitcheson; e-mail to Mr. Aitcheson with Affidavit in final form.	1.00 300.00/hr	300.00
	KSB	Work on memo of law re: attorneys fees; research Pitrolo hearing requirement.	1.50 300.00/hr	450.00
9/10/2021	KSB	E-mail from Attorney Dorsey with Affidavit and reply; complete factual background for memo of law.	0.75 300.00/hr	225.00
9/12/2021	KSB	Complete memo of law re: attorney's fees; draft motion and order granting re: exceed page limits; e-mail to clients with same.	3.75 300.00/hr	1,125.00
	KSB	Review 10/1/20 JCC minutes and recording; draft Request for Attorney's fees; e-mail to clients with same.	1.25 300.00/hr	375.00
9/13/2021	KSB	Teleconference with Mr. Rockwell; pull and review Ethics Commission e-mails; check statute; begin revision to memorandum of law; review County Notice of Appeal; e-mail to clients with Notice of Appeal and amended minutes.	1.00 300.00/hr	300.00
9/14/2021	KSB	Teleconference with Mr. Rockwell re: appeal and attorneys fees.	0.25 300.00/hr	75.00
	KSB	Teleconference with Mr. Rockwell; draft Notice of Appeal with all attachments; teleconference with legal assistant re: same; draft letter to clerk; e-mail to clients with Notice as filed with Circuit Clerk; e-mails from and to Mr. Aitcheson.	2.25 300.00/hr	675.00
	SLF	File Notice of Appeal with Circuit Clerk; prepare FedEx package to Supreme Court.	0.50 75.00/hr	37.50
9/15/2021	KSB	Review Wild Hill Solar Notice of Appeal; e-mail to clients with same.	0.25 300.00/hr	75.00
10/1/2021	KSB	Review Horus Rule 5(c) notices	0.25 300.00/hr	75.00

			Hrs/Rate	Amount
10/5/2021	KSB	Review 10/7 JCC Agenda Packet and 9/16 proposed minutes; review PC Agenda Packet for 10/5 meeting; e-mails to Mr. Rockwell re: same.	0.50 300.00/hr	150.00
11/8/2021	KSB	Pull additional Jefferson County minutes/agendas re: STA and comprehensive plan.	0.50 300.00/hr	150.00
11/10/2021	KSB	Review Supreme Court Scheduling Orders; teleconference with Attorney Cochran re: Rule 7 (e) list and whether there's actually any new STA; telephone call to Attorney Rohrbaugh's voicemail re: need to discuss appendix list and consolidation of appeals.	0.50 300.00/hr	150.00
11/12/2021	KSB	E-mails to and from counsel re: conference call re: Rule 7(e) and consolidation.	0.25 300.00/hr	75.00
11/15/2021	KSB	Telephonic conference with Attorney Rohrbaugh, Attorney McCluskey, and Attorney Snowden re: appendix and consolidation.	0.75 300.00/hr	225.00
	KSB	Teleconference with Mr. Rockwell.	0.25 300.00/hr	75.00
11/16/2021	KSB	Telephone call from Attorney Snowden re: motion to consolidate appeals, appendix, and County counsel must discuss with commission.	0.25 300.00/hr	75.00
11/17/2021	KSB	Teleconference with Attorney Rohrbaugh and Attorney Cochran; teleconference with Mr. Rockwell.	1.00 300.00/hr	300.00
11/19/2021	KSB	E-mails to and from Attorney Rohrbaugh; e-mail to Mr. Rockwell re: appeal.	0.25 300.00/hr	75.00
	KSB	E-mail from Attorney McLuskey with Motion re: extension to perfect appeal; e-mail from Attorney Rohrbaugh and forward to Mr. Rockwell; teleconference with Mr. Rockwell; e-mail to Attorney McLuskey.	0.50 300.00/hr	150.00
11/22/2021	KSB	E-mails from and to Attorney McLuskey and Attorney Rohrbaugh re: motion; review and revise Joint Motion; e-mail to counsel with same.	0.25 300.00/hr	75.00
11/23/2021	KSB	E-mails to all parties re: appeal and request for attorney fees in first suit; e-mail from Mr. Aitcheson and reply.	0.25 300.00/hr	75.00
11/24/2021	KSB	E-mail from Mr. Rockwell and reply; e-mail to Attorney Rohrbaugh and Attorney Cochran.	0.25 300.00/hr	75.00
11/29/2021	KSB	E-mails from and to Attorney Rohrbaugh and Mr. Rockwell; teleconference with Mr. Rockwell.	0.25 300.00/hr	75.00
11/30/2021	KSB	Conference with Legal Assistant re: conference call; e-mail to all parties with call information; participate in conference call; e-mail from Attorney McLuskey and reply; short teleconference with Mr.	0.75 300.00/hr	225.00

			Hrs/Rate	Amount
		Rockwell.		
12/10/2021	KSB	Teleconference with Mr. Rockwell; e-mail to Attorney Cochran and Attorney Rohrbaugh.	0.25 300.00/hr	75.00
12/13/2021	KSB	E-mails from Attorney Rohrbaugh and Attorney Cochran; telephone call to Mr. Rockwell's voicemail; teleconference with Mr. Rockwell; e-mail to counsel with Objective #28; review Objective 28.	0.50 300.00/hr	150.00
12/14/2021	KSB	Teleconference with Attorney Cochran, Attorney Rohrbaugh, and Mr. Rockwell.	0.50 300.00/hr	150.00
12/16/2021	KSB	E-mail from and to Mr. Rockwell; teleconference with Mr. Rockwell; review proposed bill.	0.50 300.00/hr	150.00
12/22/2021	KSB	Review of e-mail from Mr. Rockwell and reply; telephone call to Mr. Rockwell's voicemail; teleconference with Mr. Rockwell.	0.25 300.00/hr	75.00
12/28/2021	KSB	E-mails from Attorney McLusky re: conference call.	0.25 300.00/hr	75.00
12/29/2021	KSB	Telephone call from Attorney Snowden re: no need for conference call.	0.25 300.00/hr	75.00
1/28/2022	KSB	E-mail from Attorney McLuskey re: appendix.	0.25 300.00/hr	75.00
2/2/2022	KSB	Teleconference with Mr. Rockwell.	0.25 300.00/hr	75.00
	KSB	Review of brief and relevant recordings; e-mail to Ms. Watson re: transcripts; teleconferences (3) with Ms. Watson re: same.	1.75 300.00/hr	525.00
	KSB	Conference with Legal Assistant re: transcript; letter to clerk re: docket of JCC suit and review of same; e-mails from and to Attorney McLusky re: same.	0.50 300.00/hr	150.00
	KSB	Review of certified record and download additional documents for appendix.	3.00 300.00/hr	900.00
	KSB	Teleconference with Attorney Rohrbaugh and Attorney Cochran.	0.25 300.00/hr	75.00
2/3/2022	KSB	Teleconference with Attorney Koontz re: appendix; conference with Legal Assistant re: certified copy of 21-C-46 docket sheet; compile list of documents and re-scan; conference with Legal Assistant re: same; e-mail to Attorney Koontz; e-mail to Ms. Watson with caption and instructions.	2.25 300.00/hr	675.00
	TMM	Teleconference with Jefferson County Circuit Clerk re: obtaining a certified copy of docket sheet; draft and e-file letter to Clerk requesting certified docket sheet; Federal Express to Attorney	0.50 75.00/hr	37.50

			Hrs/Rate	Amount
		McLusky.		
2/3/2022	KSB	Teleconference with Attorney Rohrbaugh and Attorney Cochran re: informal mediation/negotiation.	0.25 300.00/hr	75.00
2/4/2022	KSB	E-mail from Ms. Watson; review two transcripts; teleconference with Ms. Watson re: revisions; e-mail to Ms. Watson with 3/9/21 JCPC minutes for help with Item 6 agenda item; e-mails from Attorney Rohrbaugh and Attorney Koontz and reply; e-mail to Attorney Rohrbaugh; pull 12/14/21 JCPC minutes; e-mails to Mr. Rockwell; brief teleconference with Mr. Rockwell.	1.50 300.00/hr	450.00
	KSB	E-mail from Attorney McLusky with proposed order; review proposed bill; e-mail to Mr. Rockwell with proposed order.	0.25 300.00/hr	75.00
2/7/2022	KSB	Review 3/9/21 JCPC transcript; e-mail to Ms. Watson re: same; check into HB and Judiciary Committee members; brief conference with Ms. Watson re: original transcripts and payment for same; e-mails to Mr. Rockwell; teleconferences (2) with Mr. Rockwell; check 8/16/21 Order; revise proposed Agreed Order; e-mail to all counsel with same; e-mail from Attorney McLuskey and reply.	1.00 300.00/hr	300.00
2/8/2022	KSB	Review letter and proposed agreed order from Attorney McLusky; e-mail from Mr. Rockwell; e-mail to Attorney Cochran and Attorney Rohrbaugh.	0.50 300.00/hr	150.00
2/10/2022	KSB	E-mails to and from counsel re: continuance; conference with Legal Assistant and revise letter from client to JCC; e-mail to counsel with transcripts.	0.25 300.00/hr	75.00
2/11/2022	KSB	E-mails to and from all counsel; conference with Legal Assistant re Federal Express transcripts to McLusky for appendix; e-mail to Mr. Rockwell re: continuance of appeal deadlines.	0.50 300.00/hr	150.00
2/14/2022	KSB	E-mails from Attorney Rohrbaugh and Attorney Cochran; teleconference with Mr. Rockwell; e-mails to all counsel and to county's attorneys.	0.25 300.00/hr	75.00
2/15/2022	KSB	E-mail from Mr. Rockwell; check JCC agenda packet; e-mails to and from Attorney Rohrbaugh, Attorney Cochran, and Mr. Rockwell; teleconference with Mr. Rockwell.	0.50 300.00/hr	150.00
2/16/2022	KSB	Pull relevant documents and prepare for handouts; e-mails to and from Attorney Lawson.	0.25 300.00/hr	75.00
	KSB	Travel to Charles Town; meeting with counsel and two commissioners and return to office.	1.25 300.00/hr	375.00

			Hrs/Rate	Amount
2/23/2022	KSB	Telephone call from Attorney Lawson; e-mails to and from Attorney Rohrbaugh and Attorney Cochran.	0.25 300.00/hr	75.00
2/25/2022	KSB	Travel to Charles Town; teleconference with Mr. Rockwell; meet with county commissioners and counsel; teleconference with Mr. Rockwell and return to office.	0.75 300.00/hr	225.00
3/8/2022	KSB	Teleconference with Mr. Rockwell; e-mail to Attorney Cochran and Attorney Rohrbaugh re: Friday meeting.	0.25 300.00/hr	75.00
3/10/2022	KSB	Telephone call to Mr. Rockwell; e-mails to and from Attorney Cochran and Mr. Rockwell; pull solar statute and brief review of same.	0.25 300.00/hr	75.00
3/11/2022	KSB	Travel to Charles Town, meeting with counsel and commissioners, return to office.	1.00 300.00/hr	300.00
3/14/2022	KSB	Convert Goal 28 and County's CUP provisions to Word for use during conference call; teleconference with Mr. Rockwell, revise proposed amendments and e-mail to Mr. Rockwell; e-mail from Mr. Rockwell re: edits, revise and e-mail to Mr. Rockwell.	0.75 300.00/hr	225.00
3/15/2022	KSB	E-mails from and to counsel, client, and commissioners.	0.25 300.00/hr	75.00
3/16/2022	KSB	Travel to Charles Town, meet with counsel and commissioners, return to office.	2.00 300.00/hr	600.00
	KSB	Teleconference with Mr. Rockwell; draft global settlement offer; e-mail to Mr. Rockwell re: same; teleconference with Mr. Rockwell; e-mail to County attorneys and commissioners.	0.50 300.00/hr	150.00
3/18/2022	KSB	Review entry of appearance motion and proposed order; e-mail to Mr. Rockwell with motion; telephone call from law clerk re: hearing date; review order; e-mail to Mr. Rockwell re: same.	0.50 300.00/hr	150.00
	KSB	Review counter offer and e-mail to Mr. Rockwell; teleconference with Mr. Rockwell; long teleconference with Attorney Rohrbaugh and Attorney Cochran.	0.50 300.00/hr	150.00
3/21/2022	KSB	Teleconference with Mr. Rockwell; draft counter-offer and e-mail to counsel and commissioners.	0.50 300.00/hr	150.00
3/23/2022	KSB	E-mails from and to Mr. Rockwell; return telephone call to Attorney Rohrbaugh and Attorney Cochran; conference with Legal Assistant re: compiling fees and expenses for second suit and review of same; telephone call to Mr. Rockwell's voicemail; teleconference with Mr. Rockwell; review County's proposed counteroffer; teleconference with Mr. Rockwell; e-mails to Mr. Rockwell and County attorneys.	0.75 300.00/hr	225.00

			Hrs/Rate	Amount
3/27/2022	KSB	Review e-mails from Mr. Rockwell; revise proposed Agreed Order; e-mail to Mr. Rockwell with same; text to Mr. Rockwell; download all exhibits; memo to Legal Assistant re: information for subpoena.	1.50 300.00/hr	450.00
3/28/2022	KSB	Review and revise status report to Supremes; e-mail to all counsel with same.	0.25 300.00/hr	75.00
4/6/2022	KSB	E-mail from Mr. Rockwell; redact invoices; e-mail to Attorney Rohrbaugh and Attorney Cochran.	0.25 300.00/hr	75.00
5/2/2022	KSB	E-mails from and to Mr. Rockwell.	0.25 300.00/hr	75.00
5/3/2022	KSB	Teleconference with Mr. Rockwell.	0.25 300.00/hr	75.00
5/16/2022	KSB	E-mail from Attorney McLusky with status for Supreme Court and review; e-mail from Attorney Rohrbaugh re: same; reply e-mail to all counsel; e-mail to Attorney Rohrbaugh and Cochran with redacted invoices for suit.	0.25 300.00/hr	75.00
6/23/2022	KSB	(Appeal) E-mails to and from Attorney McLusky re: appeal moot.	0.25 300.00/hr	75.00
6/28/2022	KSB	(Appeal) Teleconference with Mr. Rockwell	0.25 300.00/hr	75.00
7/1/2022	KSB	(Appeal) Check Rules of Appellate Procedure, status reports and time line; draft Motion to Dismiss Appeal; e-mail to Mr. Rockwell with same; teleconference with Mr. Rockwell; e-mail to counsel.	1.50 300.00/hr	450.00
7/5/2022	KSB	(Appeal) E-mail from Attorney McLusky with proposed status report to Supreme Court and review.	0.25 300.00/hr	75.00
7/6/2022	KSB	(Appeal) Teleconference with Mr. Rockwell; review and revise Motion; conference with Legal Assistant re: filing; check Appellate Rules; letter to clerk with same; e-mail to counsel re: same.	0.50 300.00/hr	150.00
7/19/2022	KSB	Review Wild Hill Response to Motion to Dismiss Appeal.	0.25 300.00/hr	75.00
10/3/2022	KSB	E-mail from Mr. Rockwell; draft supplement to Motion to Dismiss; conference with legal assistant re: e-filing, and revise certificate of service.	0.50 300.00/hr	150.00
10/11/2022	KSB	Review Wild Hill reply to Motion to Dismiss; e-mail to Mr. Rockwell with same.	0.25 300.00/hr	75.00

			Hrs/Rate	Amount
12/21/2022	KSB	E-mail to Attorney McLusky re: filing of supplement to response to motion to dismiss appeal and reply.	0.25 300.00/hr	75.00
7/11/2023	KSB	Compile additional facts since Final Order; revise Motion for attorney fees, motion to exceed page limit, and proposed order; conference with Legal Assistant re: revising invoices to compile all fees and all expenses separately for entire time period.	2.50 300.00/hr	750.00
	SUBTOTAL:		**[194.00**	**53,475.00]**
	For professional services rendered		**194.00**	**$53,475.00**

Additional Charges :

Expense

3/30/2021	Filing fee - Burke Complaint	301.60
	Filing fee - Perry Complaint	301.60
	Filing fee - Rockwell Complaint	301.60
	Filing fee - Curry Complaint	301.60
	Filing fee - Aitcheson Complaint	301.60
	Fax	0.50
3/31/2021	Research expense.	12.04
	Service Fee (Verified Petition, Notice, and Motion for Stay) upon Defendant and five Notice Defendants.	240.00
4/7/2021	Postage	15.40
4/8/2021	Photocopy fee.	42.80
4/9/2021	Postage	3.60
4/12/2021	Service Fee - Subpoenas served upon Alexandra Beaulieu and Nathan Cochran, Esq.	130.00
4/13/2021	Mileage.	0.50
	Photocopy fee.	25.60
4/14/2021	Mileage.	16.50

		Amount
4/30/2021	Postage	1.42
	Research expense.	154.72
	Photocopy fee.	13.10
5/11/2021	Postage	2.40
5/12/2021	Mileage.	16.50
6/30/2021	Research expense.	162.91
7/12/2021	Fax	2.00
7/31/2021	Research expense.	406.72
8/31/2021	Research expense.	94.17
9/9/2021	Photocopy fee.	6.30
9/14/2021	Postage	4.72
	Filing fee - Supreme Court	200.00
	FedEx to Supreme Court of Appeals (not previously billed)	40.02
2/3/2022	Research expense.	62.18
	FedEx - Certified Docket Sheet to Attorney McLusky.	27.11
2/7/2022	Transcript Cost	449.45
2/10/2022	Fax - 5 pages @ .10 per page	0.50
3/11/2022	Mileage - Travel to Charles Town	9.65
3/16/2022	Mileage - Travel to Charles Town	9.65
7/6/2022	(Appeal) Postage - Motion to Dismiss to Attorney Cochran	0.73
	(Appeal) Postage - Motion to Dismiss to Attorney Saunders and Attorney Samples	0.73
	(Appeal) Postage - Motion to Dismiss to Attorney McLusky, Attorney Snowden and Attorney Koontz.	0.73
	(Appeal) Postage - Motion to Dismiss to Supreme Court of Appeals	2.56
10/3/2022	Postage - Supplement to Motion to Dismiss mailed to Attorney Cochran.	2.16
	Postage - Supplement to Motion to Dismiss mailed to Attorney Rohrbaugh.	2.16

		Amount
10/3/2022	Postage - Supplement to Motion to Dismiss mailed to Attorney Saunders and Attorney Samples.	2.16
	Postage - Supplement to Motion to Dismiss mailed to Attorney McLusky, Attorney Snowden, and Attorney Koontz.	2.16
	SUBTOTAL:	**[3,671.85]**
	Total costs	**$3,671.85**
	Total amount of this bill	**$57,146.85**
	Balance due	$57,146.85

PLEASE NOTE: INVOICE PAYMENTS MADE BY CREDIT CARD WILL INCUR AN ADDITIONAL 3% FEE

**********CREDIT CARD AUTHORIZATION**********

WE ACCEPT CREDIT CARDS CARD TYPE: VISA MASTERCARD DISCOVER

(please circle one)

AMOUNT: _____ CARD NUMBER: _____

EXPIRATION DATE: _____ SIGNATURE: _____

CREDIT CARD BILLING ZIP CODE: _____

AGENDA REQUEST FORM

www.jeffersoncountywv.org

Name: Dick Myers, DD - Jefferson County OHSEM

Department or Organization: Jefferson County Office of Homeland Security and Emergency Management.

Estimation of amount of time needed for appointment: 10-15 minutes depending on the Commissions questions

Date Requested – 1st Choice: **January 18, 2024**
If a specific date is needed, please provide reason for specific date:

Date Requested – 2nd Choice:

Subject (*Wording to be placed on agenda*):

- Approval to adopt the 2023 Jefferson County Multi-Jurisdictional Hazard Mitigation Plan.
- Approval to release the funds in the amount of $57, 000.00 to Michael Baker International.

Please provide the County Commission with a description of your request or presentation, including any background information:

- Jefferson County OHSEM received a $60,000 grant to update our 5 yr. Multi-Jurisdictional Hazard Mitigation Plan. The County Commission agreed with our recommendation to contract with Michael Baker International in the amount of $57,000. The process was started in May with our first meeting and was completed and sent to the State Hazard Mitigation Officer (Gabriel Reed) for their approval. Mr. Reed in turn forwarded to FEMA Region 3 Planner (William Kuhn) for their approval. With some modification the plan was approved by FEMA Region 3 on January 4, 2024. We are requesting the County Commission adopt the plan as approved by FEMA Region 3. With the plan being a Multi-Jurisdictional Plan we will also be asking the Municipalities to adopt the plan as well. Lastly, we are asking the Commission to release the funds in the amount of $57,000.00 to Michael Baker International having met their obligation within the contract signed by the Jefferson County Commission.

Is this a funding request? Y/N – NO
If so, how much? $
Provide exact financial impact/request:

Recommended motion (*Please type out the wording of the motion that you would like the Commission to approve*):
Motion # 1 – I move that the Jefferson County Commission adopt the 2023 Multi-Jurisdictional Hazard Mitigation Plan as approved by the WV State Hazard Mitigation Office and FEMA Region 3.
Motion # 2 – I move that the Jefferson County Commission release the funds in the amount of $57,000.00 to Michael Baker International having met their obligation within the contract that was signed by the Jefferson County Commission.

Attach supporting documents for request, or request may be denied.
If not attached, explain:

Is equipment needed? Projector Y/N Internet/Wi Fi Y/N Telephone for conference call Y/N

Contact information:
Email address: dmyers@jeffersoncountywv.org Phone Number: 304-728-3329

FOR COMMISSION STAFF USE ONLY – FINANCIAL IMPACT/RECOMMENDATION
not applicable

JEFFERSON COUNTY COMMISSION

124 East Washington Street, P.O. Box 250, Charles Town, WV 25414
Phone: (304) 728-3284 **Fax:** (304) 725-7916
Web: www.jeffersoncountywv.org

PRESIDENT
Steve Stolipher

VICE PRESIDENT
Jane Tabb

COMMISSIONER
Tricia Jackson

COMMISSIONER
Jennifer Krouse

COMMISSIONER
Pasha Majdi

RESOLUTION – JEFFERSON COUNTY COMMISSION

WHEREAS natural, technological, and man-made hazards can affect Jefferson County; and

WHEREAS significant structural, historical, and economic losses could result from an occurrence of a natural, technological, or man-made hazard events; and

WHEREAS undertaking mitigation projects during pre-disaster periods could decrease the total losses Jefferson County incurs as a result of said hazard occurrences.

AND WHEREAS the Jefferson County Commission has a strong interest in reducing losses from future hazard occurrences; and

WHEREAS the hazard mitigation plan is a federal and state requirement to maintain eligibility for hazard mitigation funding, and, by that requirement, must be updated a minimum of every five years; and

WHEREAS a cooperative, joint effort is a proven, efficient way to plan for and reduce hazard susceptibility in all government jurisdictions in Jefferson County, West Virginia.

THEREFORE the Jefferson County Commission has undertaken a project to update the existing *Jefferson County Multi-Jurisdictional Hazard Mitigation Plan*, previously adopted in 2002, 2008, 2013 and 2018, in an effort to further identify, define, and characterize the hazards affecting Jefferson County as well as to continue identifying and prioritizing projects that could lessen hazard vulnerability.

NOW BE IT RESOLVED THAT the Jefferson County Commission does hereby adopt the updated *Jefferson County 2023 Multi-Jurisdictional Hazard Mitigation Plan* this _____ day of _____, 20__.

SIGNED: _____ _____

President, Jefferson County Commission Witness

Interim County Administrator
Edwina Benites

Hazard Mitigation Plan 2023

Prepared for:
Jefferson County Office of
Homeland Security and
Emergency Management

Prepared by:
Michael Baker International
&
Smith Planning and Design

RECORD OF CHANGES

Date	DESCRIPTION OF CHANGE MADE, MITIGATION ACTION COMPLETED, OR PUBLIC OUTREACH PERFORMED	CHANGE MADE BY (PRINT NAME)	CHANGE MADE BY (SIGNATURE)

REMINDER: Please attach all associated meeting agendas, sign-in sheets, handouts, and minutes.

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Acknowledgements

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Jefferson County Hazard Mitigation Planning Committee

Jefferson County Commission
Jefferson County Office of Homeland Security and Emergency Management
Jefferson County Board of Education
Jefferson County Development Authority
Jefferson County Emergency Communications
Jefferson County Engineering Department
Jefferson County Health Department
Jefferson County Planning Department
Jefferson County Sheriff's Office
Jefferson County Solid Waste Authority
Jefferson County Utilities
American Red Cross
Region 9
Shepherd University
US Fish and Wildlife
West Virginia Health Department
Town of Bolivar
City of Charles Town
Town of Harpers Ferry
City of Ranson
Shepherdstown

Consultants:

Michael Baker International
Smith Planning and Design

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Executive Summary

Jefferson County and its five municipalities (Bolivar, Charles Town, Harpers Ferry, Ranson, and Shepherdstown) have been and will continue to be committed to a long-term strategy for reducing the risks of hazards.

The intention of this Hazard Mitigation Plan (HMP) update is to serve as a blueprint for coordinating and implementing hazard mitigation policies, programs, and projects. It provides a list of mitigation goals, objectives, and related actions that may assist Jefferson County and its five municipalities (Bolivar, Charles Town, Harpers Ferry, Ranson, and Shepherdstown) in reducing risk and preventing loss from future natural hazard events. The impacts of hazards can be lessened and sometimes avoided altogether if appropriate actions are taken before hazardous events occur. By avoiding unnecessary exposure to known hazard risks, communities will save lives and preserve property and minimize the social, economic, and environmental disruptions that commonly follow hazard events. Jefferson County and its municipalities agree that hazard mitigation makes sense.

Communities face significant challenges during post-disaster redevelopment in balancing the driving need for rapid recovery with implementing long-term hazard mitigation. The necessity to meet basic needs and resettle displaced populations immediately following a disaster often overshadows the more abstract, longer-term sustainability considerations. Once full-scale reconstruction is initiated, it is difficult to modify projects in progress to meet sustainability objectives. This trend highlights the need for pre-disaster mitigation planning that incorporates principles of sustainable development within the context of reconstruction, so that communities can more easily rebuild in a manner that will make them less vulnerable to future hazard events while improving the quality of life.

It is imperative that local decision makers become and stay involved in this planning process to provide new ideas and insight for future updates to the HMP. Now that a mitigation strategy has been developed for 2023 and beyond it will remain a challenge and a goal for Jefferson County and its municipalities to provide necessary updates as mitigation techniques are implemented. It remains imperative that all local agencies, units of government, non-profit organizations, businesses and industries, and private citizens continue their involvement and dedication to hazard mitigation.

It is our long-term goal that the Hazard Mitigation Plan and the strategies identified will be fully integrated into daily decisions and routines of government and business. This will continue to require dedication and hard work, and this Plan update will continue to lay the building blocks in order to further strengthen the sustainability and resiliency of Jefferson County and its municipalities.

Introduction

1.1. Background

Hazard Mitigation is defined by the Federal Emergency Management Agency (FEMA) as "any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards ". The hazard mitigation planning process involves the coordination of actions taken to reduce injuries, deaths, property damage, economic losses, and degradation of natural resources caused by natural and human-caused disasters. Hazard mitigation is considered one of four phases in the emergency management cycle. Others include emergency preparedness, emergency response, and recovery.

- Hazard mitigation activities involve actions that reduce or eliminate the probability of an occurrence or reduce the impact of a disaster. The goal of the mitigation phase is to make communities more resistant to disasters and thereby decrease the need for a response. Mitigation occurs long before a disaster.
- Preparedness activities include planning and preparing for when a disaster strikes and includes response capability actions to ensure an effective and efficient use of resources and efforts to minimize damage. Preparedness occurs just before a disaster.
- Emergency response activities include providing emergency assistance to victims and minimizing property loss. The response phase begins during or immediately after the onset of a disaster.
- Recovery activities include short and long-term activities that help return individuals and communities to normalcy as soon as possible. Recovery actions involve clean-up efforts, temporary housing, and replacement of infrastructure. Recovery activities typically commence several days or weeks after a disaster and are long-term.

The Jefferson County Hazard Mitigation Committees (HMC), composed of government leaders from County departments and agencies, in cooperation with the elected officials of its municipalities, have prepared this Hazard Mitigation Plan update. The Plan is the result of work by citizens of the County to develop a pre-disaster multi-hazard mitigation plan that will not only guide the County towards greater disaster resistance but will also respect the character and needs of each community.

1.2. Purpose

This project will update the 2018 Jefferson County Hazard Mitigation Plan, which was approved by FEMA in 2018. As part of this process the County and its municipalities will evaluate the previously identified natural hazards and risk assessments to determine if any revisions or additions are needed. The consultant will provide an updated asset inventory, risk assessment, and mapping of critical facilities within the plan area. The consultant will also provide Hazus Flood Analysis reports and loss estimates for each identified hazard in Jefferson County.

This Hazard Mitigation Plan was developed for the purpose of:

- Providing a blueprint for reducing property damage and saving lives from the effects of future natural and human-caused disasters in Jefferson County.
- Identifying, introducing, and implementing cost-effective hazard mitigation measures in order to accomplish county goals and objectives and to raise awareness and acceptance of hazard mitigation.
- Complying with state and federal legislative requirements for county mitigation in order for Jefferson County to be eligible for federal and technical assistance from state and federal hazard mitigation programs; and
- Demonstrating a firm local commitment to hazard mitigation principles; and improving community resiliency following a disaster event.

Adoption of this plan ensures that Jefferson County and participating municipalities continue to be eligible to apply for and receive certain federal grant funds that are administered by the State of West Virginia for FEMA. This plan complies with the requirements of the Disaster Mitigation Act of 2000 and its implementing regulations published in Title 44 of the Code of Federal Regulations (CFR) Section 201.6.

1.3. Scope

This 2023 Hazard Mitigation Plan Update has been prepared to meet requirements set forth by the Federal Emergency Management Agency (FEMA) and the West Virginia Emergency Management Division (WVEMD) in order for Jefferson County to be eligible for funding and technical assistance from state and federal hazard mitigation programs. It will be updated and maintained to address both natural and human-caused hazards determined to be probable and/or present a risk for multiple deaths/injuries and property damages to the local municipalities within the region. Updates will take place following significant disasters or at a minimum this plan will be subject to review and update on an annual basis.

In April of 2023, Jefferson County contracted with Michael Baker International, Inc. and Smith Planning and Design to support the Hazard Mitigation Plan Update development in compliance with the requirements of the Disaster Mitigation Act of 2000. The Plan Update was funded by Hazard Mitigation Assistance (HMA) funds from FEMA and administered by the WVEMDD. The Plan Update is a multi-jurisdictional plan that covers Jefferson County and their 5 municipalities.

It should be noted that future funding for certain mitigation projects will be contingent upon having each jurisdiction in Jefferson County adopt the plan after the County adopt the Update. Any jurisdiction that does not adopt the 2023 Plan Update will become ineligible for FEMA pre- and post-disaster mitigation funds.

Organization of the Plan

The 2023 Hazard Mitigation Plan Update consists of 7 chapters, each focusing on a different aspect of the planning process. Chapter 1 includes the prerequisites of the Plan including its purpose and scope. Chapter

2 introduces the plan update process and includes an overview of the socio-economic and demographic characteristics. Chapter 3 discusses the planning process. Chapter 4 comprises the hazard identification and risk assessment and examines vulnerability and the potential losses from the top priority hazards. Chapter 4 also includes a historic profile of hazard types and associated losses, and a vulnerability assessment, which analyzes the potential for future damages due to the hazards identified. Chapter 5 contains a capability assessment including a review of existing plans and ordinances from the County and municipalities. Chapter 6 discusses the mitigation strategy including updated mitigation goals and objectives, mitigation actions, and the method for prioritization and implementation of mitigation actions. Chapter 7 outlines how Jefferson County and its municipalities will implement the Plan once it is adopted and ways to monitor progress and ensure continued public involvement. Chapter 8 includes letters of adoption by the County's Commission and the individual municipalities.

1.4. NATIONAL MITIGATION INVESTMENT STRATEGY

The National Mitigation Investment Strategy is a single national strategy for advancing mitigation investment to reduce risks posed by natural hazards and increasing the nation's resilience to natural hazards. The Investment Strategy encourages the whole community, including individuals, to invest in pre- and post-disaster mitigation by adopting three shared goals:

Goal 1: Show How Mitigation Investments Reduce Risk

Build a shared understanding of mitigation investment and its value. Create a shared vocabulary and common measures to communicate information about risk and find opportunities to educate, hire, train and develop a base of qualified mitigation professionals.

Goal 2: Coordinate Mitigation Investments to Reduce Risk

Coordinate mitigation investments through shared risk information, reinforced strategies for risk reduction, and easier access to existing funding. Justify mitigation investments and choose the most cost-effective and reasonable actions.

Goal 3: Make Mitigation Investment Standard Practice

Factor mitigation into investment decisions and expand financial products and approaches for mitigation investment. Make mitigation standard professional practice critical to safeguarding lifelines, services, and national safety and security.

Local hazard mitigation plans are the opportunity for local governments to discuss, apply, and meet the three shared goals of the Investment Strategy. A plan based on an equitable and comprehensive engagement strategy, inclusive risk communication, and understanding community needs and capabilities sets the foundation for guiding investment decisions to reduce risk using a wide range of public and private resources.

1.5. COMMUNITY RATING SYSTEM (CRS)

The Community Rating System (CRS) is a voluntary program that provides flood insurance premium discounts to communities that implement programs and measures that exceed the minimum floodplain management requirements of the National Flood Insurance Program (NFIP). The Community Rating System program determines discounts based on credit points provided for floodplain management activities in participating communities. To achieve certain CRS Class ratings, communities must meet certain program prerequisites in addition to obtaining the credit points.

Jefferson County is one of thirteen communities in West Virginia that participate in the Community Rating System (CRS), along with Berkeley, Fayette, Greenbrier, Hampshire, Kanawha, Morgan, and Putnam Counties as well as the cities of Buckhannon, Charleston, Martinsburg, Parsons, and Philippi. As such, this hazard mitigation plan follows the necessary steps for CRS planning. The following table illustrates how this hazard mitigation plan and CRS planning cross-reference with the regulatory guide and the corresponding section of this plan.

Over the course of this past planning cycle, 2018-2023, Jefferson County went from a CRS class rating of 6 to a class 7. The total points awarded for the 2022 cycle were 1,673 points, whereas the total points awarded for the 2016 cycle was 2,007 points: a difference of 334 points. In preparation of this plan update, additional information has been included within Chapter 2: Planning Process, Chapter 3: Risk Assessment, and Chapter 5: Mitigation Strategy to coincide more closely with the "CRS Planning Steps" shown on the figure above. New mitigation actions included in this plan update that will result in the award of points under CRS have been denoted with a flag icon .

1.6. Authority and Reference

Authority for this plan originates from the following federal sources:

- Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C., Section 322, as amended;
- Code of Federal Regulations (CFR), Title 44, Parts 201 and 206;
- Disaster Mitigation Act of 2000, Public Law 106-390, as amended; and
- National Flood Insurance Act of 1968, as amended, 42 U.S.C. 4001 et seq.

Authority for this plan originates from the following State of West Virginia source:

- West Virginia Code § 15-5 Public Safety
- WVEMDD: *West Virginia Statewide Standard Hazard Mitigation Plan Update 2018*

The following FEMA guides and reference documents were used to prepare this document:

- FEMA 206-1-0002: Local Mitigation Planning Policy Guide. April 2022
- FEMA 386-1: *Getting Started*. September 2002.
- FEMA 386-2: *Understanding Your Risks: Identifying Hazards and Estimating Losses*. August 2001.
- FEMA 386-3: *Developing the Mitigation Plan*. April 2003.

- FEMA 386-4: *Bringing the Plan to Life*. August 2003.
- FEMA 386-5: *Using Benefit-Cost Review in Mitigation Planning*. May 2007.
- FEMA 386-6: *Integrating Historic Property and Cultural Resource Considerations into Hazard Mitigation Planning*. May 2005.
- FEMA 386-7: *Integrating Manmade Hazards into Mitigation Planning*. September 2003.
- FEMA 386-8: *Multijurisdictional Mitigation Planning*. August 2006.
- FEMA 386-9: *Using the Hazard Mitigation Plan to Prepare Successful Mitigation Projects*. August 2008.
- FEMA: *Local Mitigation Planning Handbook.* March 2013.
- FEMA: *Local Mitigation Plan Review Guide.* October 2011.
- FEMA: *National Fire Incident Reporting System 5.0: Complete Reference Guide*. January 2008.
- FEMA: *Hazard Mitigation Assistance Unified Guidance*. February 2015.
- FEMA: *Integrating Hazard Mitigation into Local Planning: Case Studies and Tools for Community Officials*. March 2013
- FEMA: *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards.* January 2013.
- FEMA: *National Flood Insurance Program Fact Sheet*. May 2016.
- FEMA P-758: *Substantial Improvement / Substantial Damage Desk Reference*. May 2010.

The following additional guidance documents were used to update this plan:

- NFPA 1600: *Standard on Disaster/Emergency Management and Business Continuity Programs*. 2007
- WVEMDD. *West Virginia Statewide Standard Hazard Mitigation Plan, 2018 & 2023 Update.*
- Jefferson County Council. Envision *Jefferson 2035 Comprehensive Plan, Update (2023anticipated).*
- Jefferson County Council*. US 340 East Gateway Plan.* 2012
- Jefferson County Council. *Urban Tree Canopy Plan and Goals.* 2011
- Jefferson County Council*. Jefferson County Parks and Recreation, 2026 Master Plan*. 2016

2. Community Profile

The planning area for the hazard mitigation plan includes the incorporated municipalities and unincorporated areas within the geographical boundaries of Jefferson County, West Virginia. This section describes the geographic profile, climate, demographic profile, employment and industry profile, and unique characteristics of the planning area; these are important to understand in relation to natural, technological, and human-caused hazards because they can inform the type of vulnerabilities different locations or populations could experience. While some information such as the study area boundaries and geography have remained unchanged, and derived from the 2018 Plan, other information such as the demographic, employment, and industry information have been developed using the latest U.S. Census, the Comprehensive Plans, and other planning documents.

2.1. Geography and Environment

Jefferson County is one of 55 counties in the State of West Virginia and is located in the midst of the Blue Ridge and Appalachian Mountains in the eastern-most portion of the state's eastern panhandle. The Potomac River and Washington County, MD border the county on the north, the Potomac and Shenandoah Rivers and Loudoun County, VA on the east, Clarke County, VA on the south, and Opequon Creek and Berkeley County, WV on the west. A series of parallel ridges and valleys pierced by occasional water gaps characterizes the topography of Jefferson County. Significant areas of the Eastern portion of the county are comprised of karst topography that indicates dissolution of underlying rocks by surface water or groundwater. This geography can be seen in Figure 2-1.

The county contains five incorporated municipalities, as seen in Figure 2-2, including the Towns of Bolivar and Harpers Ferry, the Corporation of Shepherdstown, and the Cities of Ranson and Charles Town, the latter of which functions as the county seat. The county has a total land area of 212 square miles and varies in elevation from a low of 247 feet above sea level at Harpers Ferry to a high of 1,553 feet east of Shannondale. Metropolitan cities located within close proximity to Jefferson County include Washington, D.C. (58 miles), and Baltimore, MD (67 miles).

Table 2-1: Municipalities Covered Under 2023 HMP

Name	Type	County
Bolivar	Town	Jefferson
Harpers Ferry	Town	Jefferson
Shepherdstown	Corporation	Jefferson
Ranson	City	Jefferson
Charles Town	City	Jefferson

The county's rolling topography separates Jefferson County into three major drainage divides. The Shenandoah River has a drainage area of 105 square miles at the downstream county boundary; the Potomac River has a drainage area of 62 square miles; and Opequon Creek has a drainage area of 44 square miles. The majority of the streams in the county flow in a northwest-southeast direction toward Opequon Creek or the Shenandoah River. Ultimately, they flow into the lower Potomac River and the Chesapeake Bay. It is notable that the Karst rock under the county maintains significant aquifers that are important source of water for the county. In general, the aquifers flow from south to northeast. Figure 2-2 displays the watersheds and major water areas in Jefferson County.

Jefferson County has a continental-type climate, predominantly influenced by air from the west. The climate of Jefferson County is seasonal in nature, with warm summers, cold winters, stormy springs and mild fall seasons. The average temperatures have increased since the last plan update; average January temperatures five years ago were 29°F and are now 31°F, average July temperatures were 73°F five years ago and are now 74.7°F, creating a mean average temperature of 51°F five years ago and 52.9°F currently.

Figure 2-3 shows the average annual precipitation in Jefferson County. Precipitation is evenly distributed throughout the year, with an annual average of approximately 37 inches as of the last plan update and 40 inches according to current data (NCEI, n.d.). Data from the Martinsburg weather station indicates that the area experiences approximately 26 inches of snowfall per year. Southeast Jefferson County appears to receive the most precipitation, while an area along the western border with Berkeley County appears to receive the least.

Jefferson County is part of the Washington metropolitan area that comprises several counties from Virginia and Maryland, and D.C. This metropolitan area is home to more than six million people, surpassing the population of the Philadelphia metropolitan area in 2015 (Freed, 2016).

Per the 2023 West Virginia State Hazard Mitigation Plan, the state has experienced an average temperature increase of 0.1 degrees Fahrenheit per decade since 1985, as the effects of climate change become more severe. Similarly, the average amount of precipitation in the state has increased around 0.2 inches per decades since 1985.

Figure 2-1: Multi-Jurisdictional Hazard Mitigation Plan Update Base Map

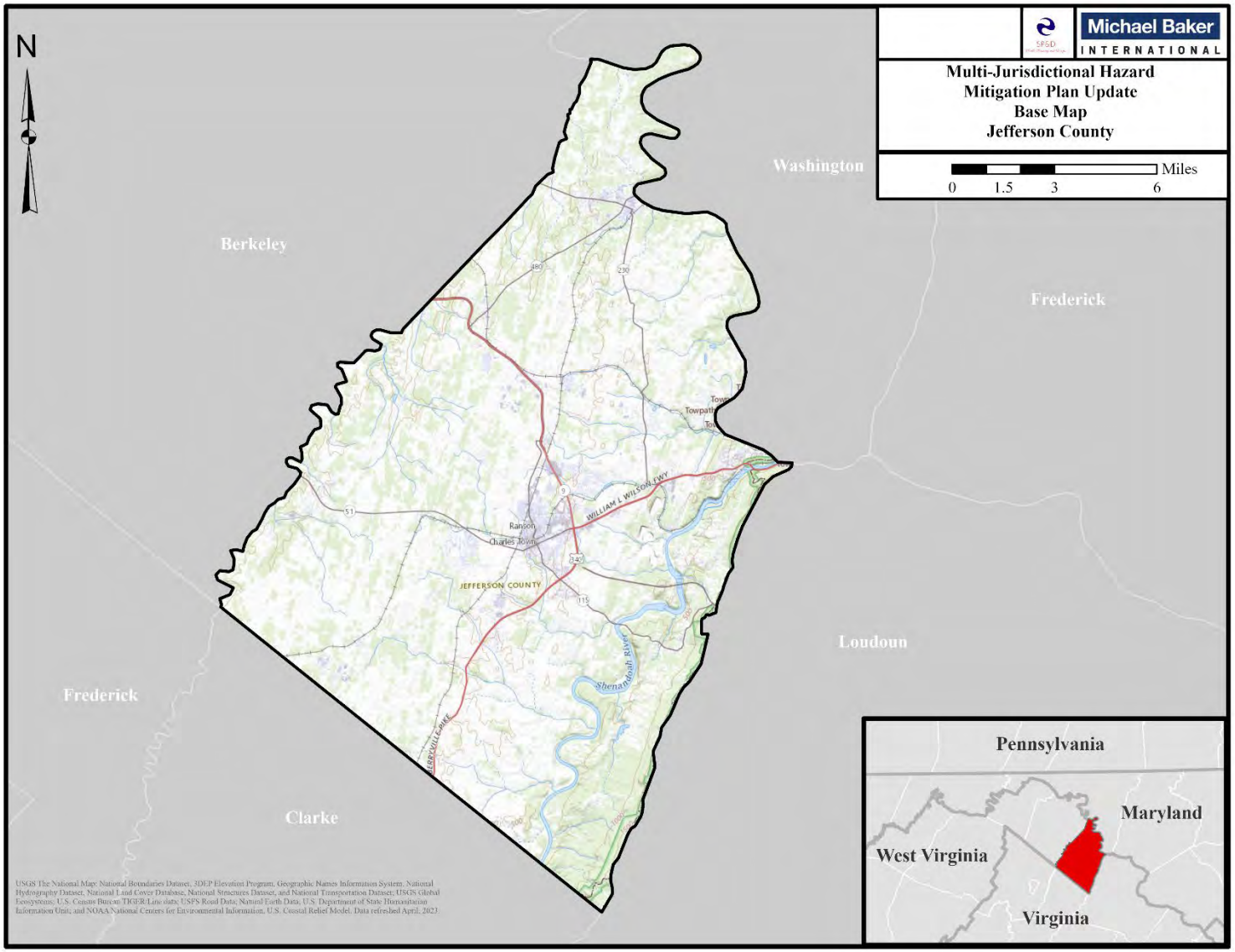


Figure 2-2: Jefferson County USGS HUC8 Watersheds

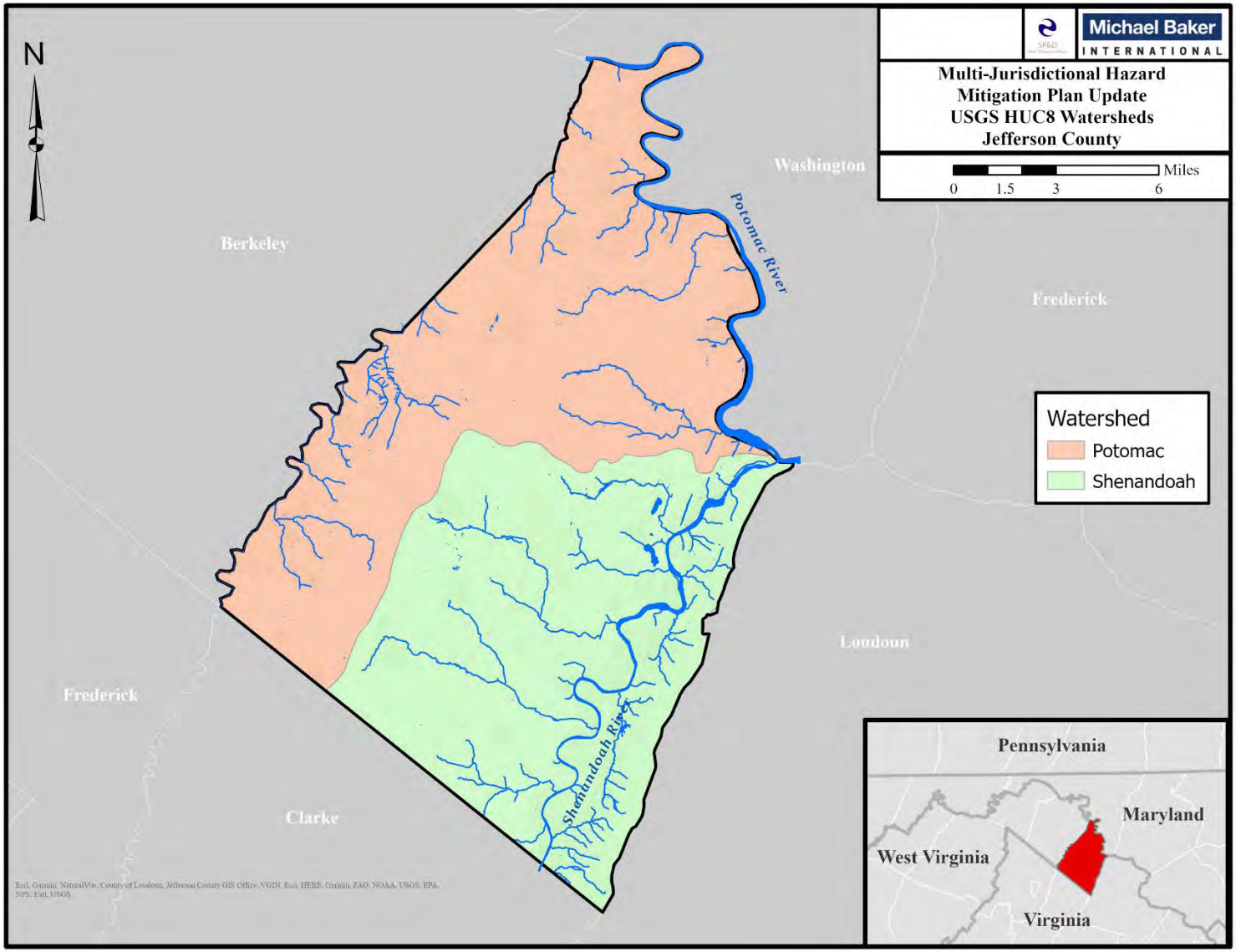
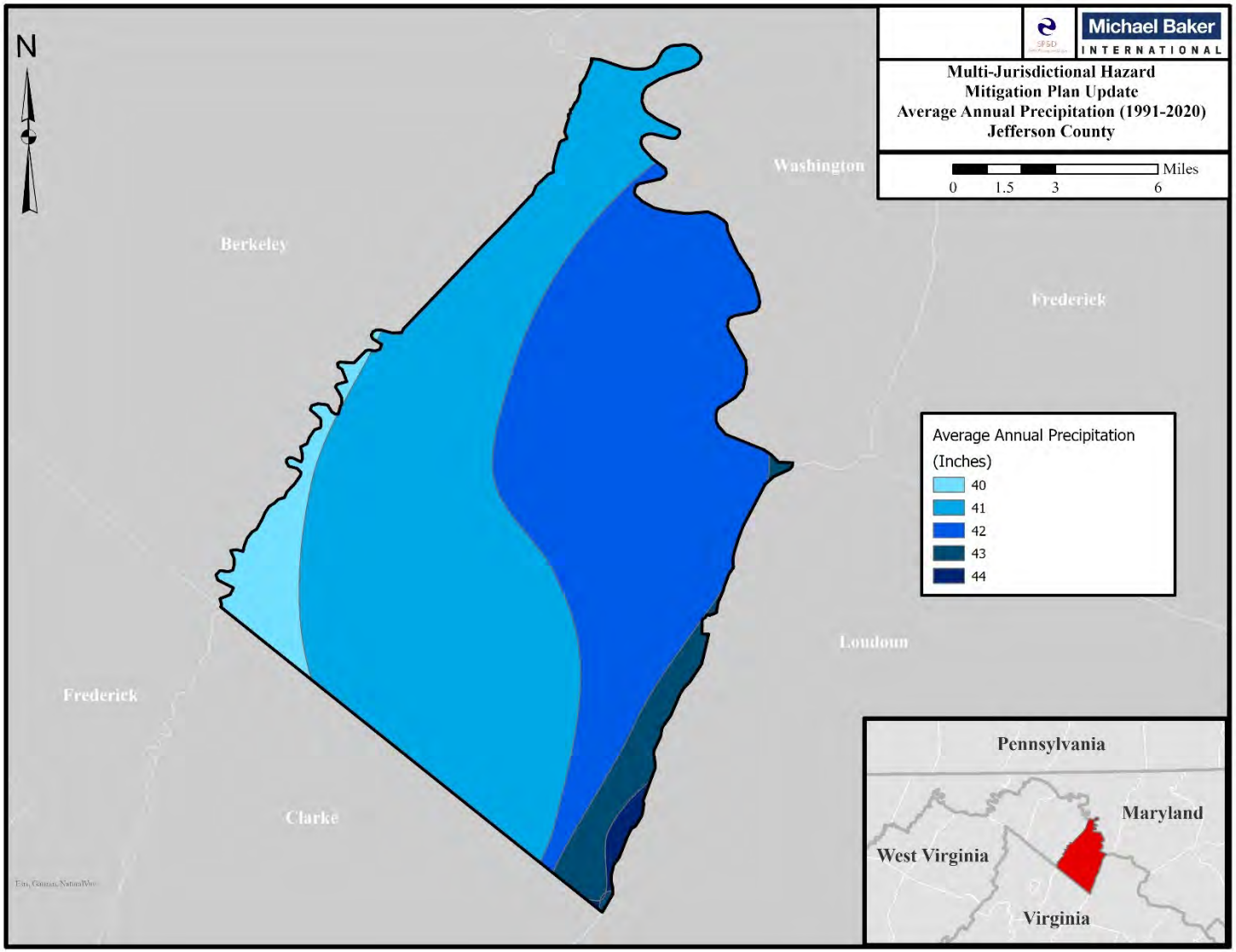


Figure 2-3: Jefferson County Average Annual Precipitation (1991 – 2020)



2.2. Community Facts

2.2.1. History

Jefferson County was created by an act of the Virginia General Assembly on January 8, 1801 from parts of Berkeley County. It was named in honor of Thomas Jefferson, who was then President-elect of the United States, the author of the Declaration of Independence and one of America's greatest statesmen. For most of its history, Jefferson County's economy has been primarily agricultural, producing grain and other crops in the 18th and 19th centuries and orchard fruit in the late 19th and early 20th centuries.

Two important events that shaped the future of Jefferson County were the establishment of the federal armory at Harpers Ferry in 1799 and the arrival of the Baltimore & Ohio Railroad in 1834. John Brown's raid on Harpers Ferry was prompted by the presence of the armory, the town's proximity to defensible positions in the mountains, and the belief that the surrounding slave population would rise up and support the insurgents. The presence of the B&O influenced the decision in 1863 to include Jefferson County in the new state of West Virginia, although most residents had sided with Virginia when the mother state seceded from the Union.

Jefferson County's population grew slowly from the end of the Civil War until World War II, to nearly 16,000. Agriculture remained the major source of revenue, with corn and wheat being the major crops. The orchard industry was introduced in the 1880s, and many dairy farms were established in the 1920s and 1930s. During the 1980s and 1990s, the number of farms declined, partly because of the decreased profitability of farming and partly because of the pressure exerted by residential development. By the year 2000, raising beef cattle and horse breeding were the most promising areas for agricultural growth. With the opening of the Charles Town Racetrack in 1933, Jefferson County became the first track in the state to offer parimutuel betting. The racetrack is still one of the major employers in the area.

Like much of the neighboring area, Jefferson County began to grow more rapidly in the 1970s. Between 1970 and 2000, the number of residents increased from 21,280 to 42,190. During this period, the county experienced much residential growth without a proportionate increase in its business and industrial base, as the majority of its people commuted outside of the county to work. The county is part of the metropolitan Washington area (Jefferson County, 2023).

2.2.2. Highways

Jefferson County is connected to the region's cultural, financial, and industrial centers by numerous interstate, state, and county highways. The region's dense network of roadways makes every corner of Jefferson County readily accessible.

I-70 and I-81 connect Jefferson County to Washington, D.C., Baltimore, and several cities throughout the East Coast, the Upper South, and the Ohio Valley. I-70 is 30 miles away, accessible via U.S. Route 340, and connects Jefferson County to Maryland and Virginia. I-81 is only 10 miles away and accessible via State Route 9, a major east-west state highway that gives Jefferson County quick access to Manassas, Virginia.

S.R. 45 joins northern Jefferson County to nearby Martinsburg, at the interchange of I-81, U.S. Route 11, and S.R. 9. S.R. 51 passes through the county from Charles Town in the east to I-81 and beyond in Berkeley County, West Virginia. S.R. 115 runs east-west through Jefferson County for 20 miles and parallels S.R. 9. S.R. 230 is a north-south state highway in Jefferson County joining U.S. Route 340 just west of Bolivar to S.R. 45 and S.R. 480 in Shepherdstown.

2.2.3. Economy

In Jefferson County, the economy (i.e., local work force) is driven by educational services, health care, professional, retail trade and arts, entertainment industries. Table 2-2 shows the top four industries in Jefferson County, with the number of individuals employed.

Table 2-2: Top Industries by County, 2017-2021 American Community Survey 5-Year Estimates

County (# of total employed)	Industry 1 (# of employees)	Industry 2 (# of employees)	Industry 3 (# of employees)	Industry 4 (# of employees)
Jefferson (28,446)	Educational services, and health care and social assistance (6181)	Professional, scientific, and management, and administrative and waste management services (3730)	Retail trade (3604)	Arts, entertainment, and recreation, and accommodation and food services (3280)

US Census Bureau, 2023

The Jefferson County Development Authority (JCDA) works to bring development and jobs to the county. The top employers, by jurisdiction, are as follows.

Jefferson County (Jefferson County Development Authority, 2023):

- Jefferson County Schools
- PNGI Charles Town Gaming, LLC
- IRS Data Center
- Shepherd University
- American Public University System

2.2.4. Utilities

Jefferson County residents living in unincorporated and rural area are on private wells and septic. Utilities are provided by many different companies. Major utility provider breakdowns are as follows:

- Electricity: Potomac Edison
- Natural Gas: Mountaineer Gas

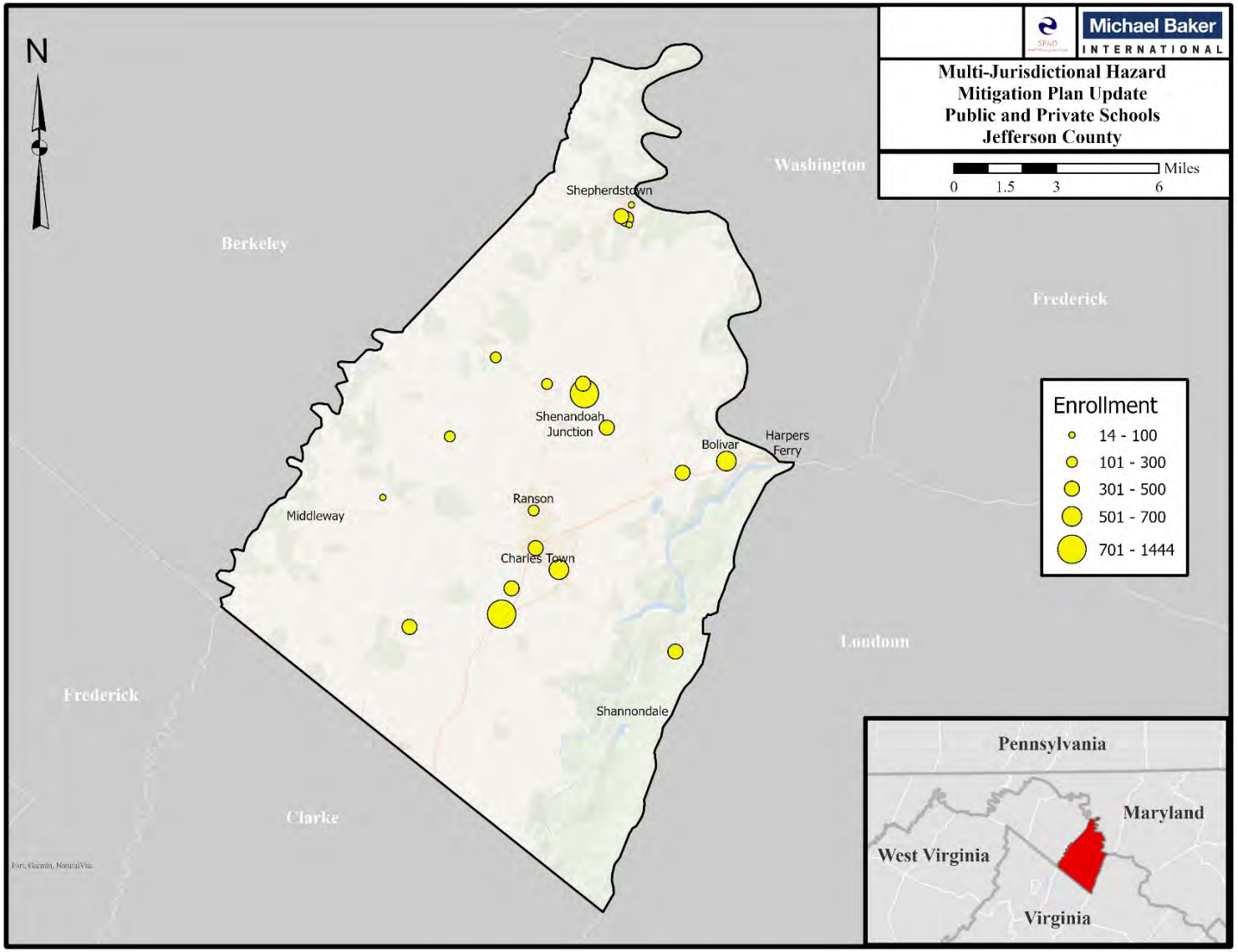
- Water: West Virginia American Water, the Jefferson County Public Service District, the City of Charles Town, the Corporation of Harpers Ferry, and the Corporation of Shepherdstown
- Wastewater: Jefferson County Public Service District, the City of Charles Town, the Harpers Ferry-Bolivar Public Service District, Jefferson Utilities, and the Corporation of Shepherdstown.
- Telephone: Comcast, and Frontier Communications
- Wireless Carriers: Verizon, AT&T, Sprint, T-Mobile, Comcast, and U.S. Cellular

2.2.5. Schools

The Jefferson County Public school system comprises 10 elementary schools, one intermediate school, four middle schools, and two high schools. Jefferson County Schools also runs an opportunity learning center. In addition, there are four private schools. Jefferson County has a 90% high school graduation rate which is just over the national average of 89%, and higher than the rest of the state by 2% (County Health Rankings & Roadmaps, 2023). School locations can be seen in Figure 2-4 and summarized in Appendix F.

Jefferson County is home to two higher education institutions; the American Public University System that runs the online American Public University (APU) and the American Military University (AMU) programs is headquartered in Charles Town, and Shepherd University in Shepherdstown. There are several other colleges and universities that are within close proximity to the county including Blue Ridge Community and Technical College in Martinsburg, Shenadoah University in Winchester, and Hood College in Frederick.

Figure 2-4: Jefferson County Public and Private Schools



2.3. Population and Demographics

Table 2-3 shows current population estimates for Jefferson County. The total population is estimated to be 57,701. According to the American Community Survey 5-year estimates (2017-2021), the median age in Jefferson County is 41. The 65+ group was the fastest growing between 2017 and 2021 with its population increasing 13.3 percent. The percentage of Jefferson County's population that is age 65 and older has increased from 15.7 percent of the population in 2017 to 17.3 percent in 2021. The 0 to 4 age group declined the most dropping 8.7 percent between 2017 and 2021. With more than 17 percent of Jefferson County residents being 65 years or older, the impact of hazards on elderly populations must be carefully considered. The age of the population may also impact which outreach methods work best for hazard mitigation awareness or education actions. Actions involving the internet or cell phones may exclude certain population groups. (U.S. Census Bureau, 2023).

Table 2-3: Jefferson County Population Estimates	
Population (2020 Decennial Census)	Jefferson County
Total Population	57,701
Population Percent Change 2010 - 2020	7.70%
Population (2035 Estimate)	Jefferson County
Total Population	68,245
Age (ACS 2021 5-year estimates)	
Persons under 5 years	4.90%
Persons under 18 years	21.30%
Persons 18 years to 64 years	61.40%
Persons 65 years and over	17.30%

U.S. Census Bureau, 2020 and U.S. Census Bureau, 2021

Table 2-4 shows the municipalities located within Jefferson County and their corresponding population and population growth. The Charles Town and U.S. Route 340 corridor are some of the fastest growing areas in the county.

Table 2-4: Municipality Population Estimates			
Municipality	2021 Population Estimates	2016 Population Estimates	Population Change
Bolivar	1290	1225	5.30%
Charles Town	6373	5682	12.20%
Harpers Ferry	292	213	37.10%
Ranson	5404	4830	11.90%
Shepherdstown	1529	1578	-3.10%

U.S. Census Bureau, 2020

The median income of households (according to 2017-2021 estimates) in Jefferson County is $86, 711. County statistics report that 9.7 percent of the Jefferson County population live in poverty. According to 2021 estimates, approximately 24,708 total housing units are estimated in the county. The median

monthly housing costs for mortgaged homeowners is $1,709 in Jefferson County. The median rent is $978 per month in Jefferson County. Ethnic origins of the county can be seen in Table 2-5.

Table 2-5: Race and Ethnic Origin in Jefferson County as a percentage of the population, 2022

Race and Ethnic Origin (ACS 2022 5-Year Estimates)	Jefferson County
White Alone	88.1%
Black or African American Alone	6.5%
American Indian and Alaska Native Alone	0.4%
Asian Alone	1.7%
Native Hawaiian and Other Pacific Islander Alone	0.1%
Two or More Races	3.2%
Hispanic or Latino	6.8%
White Alone, not Hispanic or Latino	82.2%

U.S. Census Bureau, 2023

2.4. Land Use and Development

Most of Jefferson County falls under the hay and pasture land use category, followed by deciduous forest. There are also significant amounts of cultivated crop, and mixed forest scattered across the county. Developed land uses are found concentrated in areas of higher population density and near major travel routes. This can be seen in Figure 2-5.

The region as a whole continues to see significant development as a part of the Metropolitan Washington, DC. As such, the potential for development is likely to continue. While there has been a significant amount of commercial development in Jefferson County since the 2004 Comprehensive Plan, it has slowed considerably in recent years. During this same time period, residential growth occurred at a more rapid rate, particularly in the early 2000's. With Jefferson County's proximity to Washington, D.C. and Baltimore, MD and with the existing economic cluster of federal agencies, the County has the opportunity to attract additional federal facilities. Some of the industries that the JCDA has identified to target for growth is agriculture development, government, information technology, manufacturing, small business, and tourism.

With growing population and development comes a myriad of concerns for vulnerability to natural and man-made hazards. Some of the specific concerns cited by stakeholders include increase in drought vulnerability by spreading the source water thinner throughout more people, as well as an increase in invasive species by intermodal travel. Stakeholders were particularly concerned with the ongoing COVID-19 pandemic, and significant gaps in the community, state, and federal response in protecting the population.

The Jefferson County Planning and Zoning Department and the Jefferson County GIS Department work together regularly to keep development plans up to date. The map in Figure 2-6 illustrates the county's future land use guide. The map specifies preferred growth areas and village expansions in addition to the land use classification of all the areas in the county.

Figure 2-5: Jefferson County Land Cover

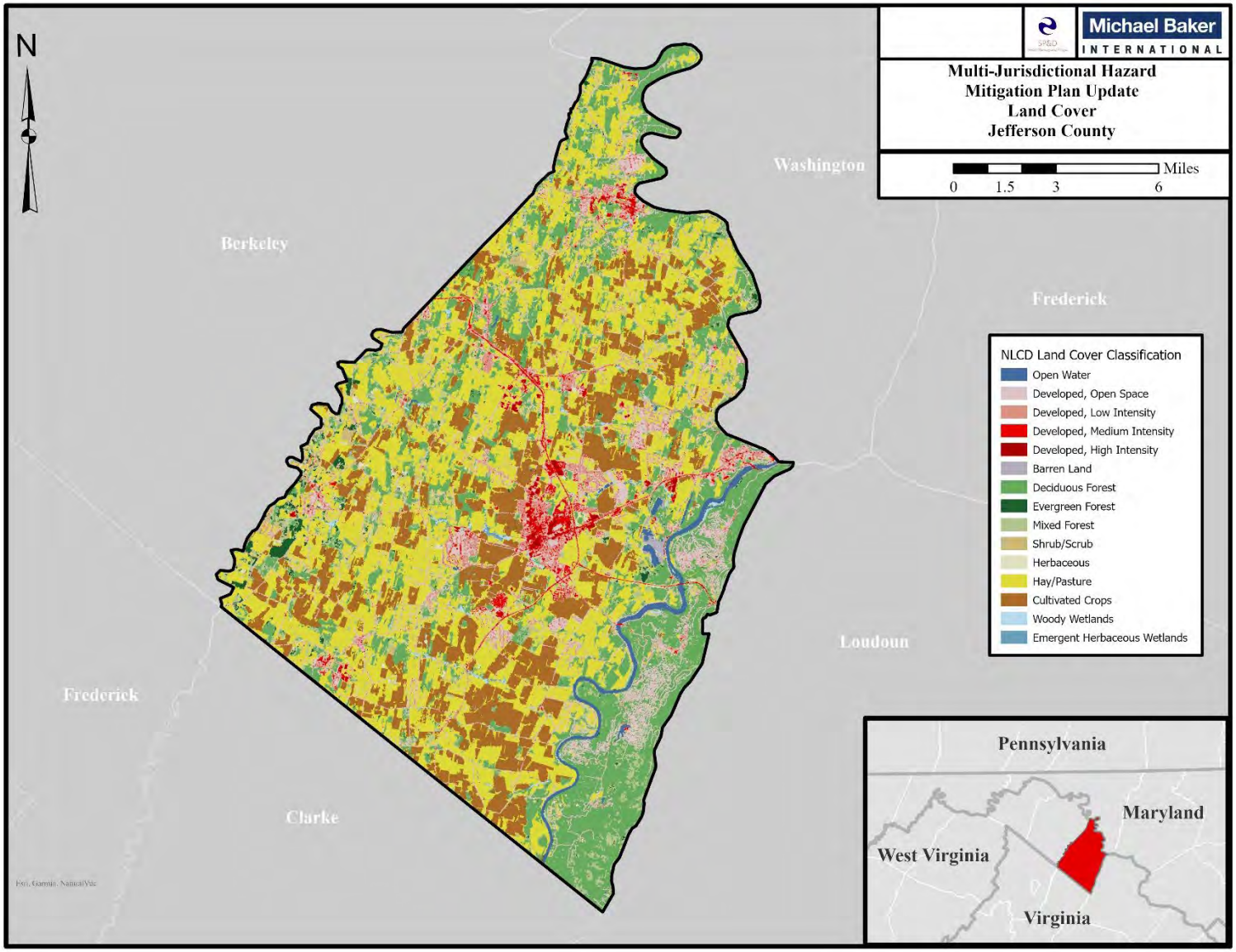
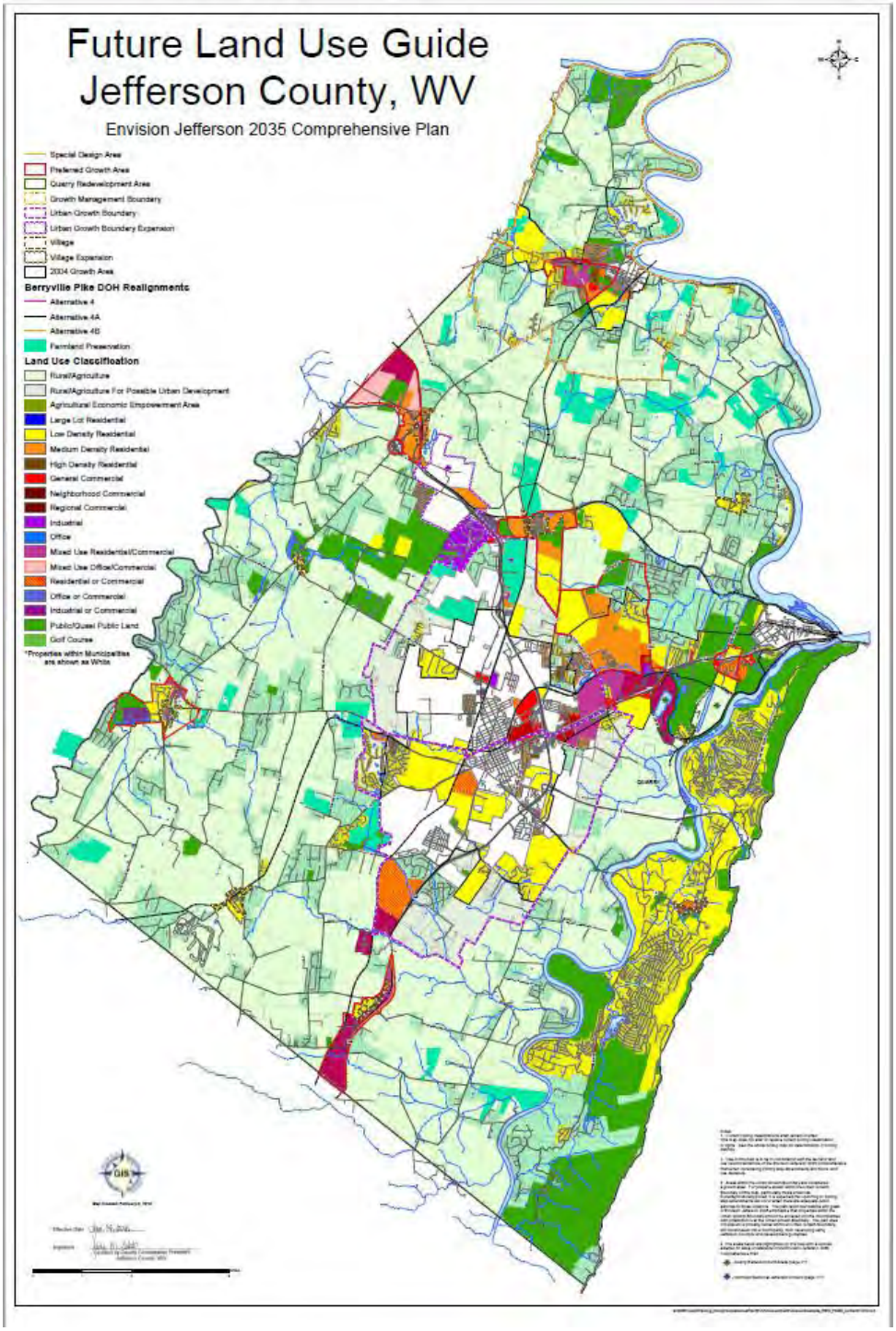


Figure 2-6: Jefferson County Future Land Use Guide



2.5. Data Sources and Limitations

Geographic Information System (GIS) data used in the mapping and analysis of hazards throughout the HMP were provided by a few different sources. Data including West Virginia watersheds, land use, school

locations, dam locations, karst features and climate data were retrieved from the online West Virginia State GIS Data Clearinghouse which is maintained by the West Virginia GIS Technical Center (WV GISTC) at West Virginia University (WVU). Jefferson County transportation features and flood zone areas were obtained from the Jefferson County GIS Coordinator.

Additional information used to complete the risk assessment for this plan was taken from various government agency and non-government agency sources. Those sources are cited where appropriate throughout the plan with full references listed in Appendix B – Bibliography. Online local news sources were also used extensively to identify the previous occurrence of a hazard, detail the hazard's extent and impact, and provide photographs. News media is important in hazard mitigation planning as both a source of data and to facilitate public interest and involvement.

In order to assess the vulnerability of different jurisdictions to the hazards, data on past occurrences of damaging hazard events was gathered. For a number of historic natural-hazard events, the National Center for Environmental Information (NCEI) database was utilized. NCEI is a division of the US Department of Commerce's National Oceanic and Atmospheric Administration (NOAA). Information on hazard events is compiled by NCEI from data gathered by the National Weather Service (NWS), another division of NOAA. NCEI then presents it on their website in various formats. The data used for this plan came from the US Storm Events database, which "documents the occurrence of storms and other significant weather phenomena having sufficient intensity to cause loss of life, injuries, significant property damage, and/or disruption to commerce" (NOAA, 2006). Due to changes in the data collection procedures over time, there may be more events available for certain kinds of natural hazards; incidences listed in this plan reflect data housed in the NCEI Storm Events Database as of July 2023.

This HMP evaluates the vulnerability of the area's critical facilities. For the purposes of this plan, critical facilities are those entities that are essential to the health and welfare of the community. This includes, police departments, fire stations, emergency medical services (EMS), schools, and hospitals and medical centers. For a full list of critical facilities, please see Appendix F – Critical Facilities.

3. Planning Process

3.1. Update Process and Participation Summary

A successful planning process builds partnerships and brings together members representing government agencies, the public, and other stakeholders to reach consensus on how the community will prepare for and respond to hazards that are most likely to occur. Applying a comprehensive and transparent process adds validity to the Plan. Those involved gain a better understanding of the problem or issue and how solutions and actions were devised. The result is an updated set of common community values and widespread support for directing financial, technical, and human resources to an agreed-upon action. The planning process has been an integral part of updating the Jefferson County Hazard Mitigation Plan. This section describes the update process and how the Plan evolved since it was first approved by the Federal Emergency Management Agency (FEMA).

Hazard Mitigation Planning Committee (HMPC) members were identified and approached by the Jefferson County Office of Homeland Security and Emergency Management (JCOHSEM). All five municipalities: Bolivar, Charles Town, Harpers Ferry, Ranson, and Shepherdstown participated in the vulnerability assessment and the development of the Mitigation Strategy to address these vulnerabilities.

To begin this process, Jefferson County hosted an Internal Planning Team kick-off meeting on May 5, 2023. During this meeting, attendees reviewed the Hazard Mitigation Planning process, as well as changes to the planning process presented in FEMA's Local Mitigation Planning Policy Guide (FP 206-21-0002) released on April 19, 2022 and effective April 19, 2023. Additionally, the attendees discussed the scheduling of HMPC meetings and public outreach options to include electronic email invites, hardcopy mailers, bi-monthly newsletters and radio broadcasts.

During scheduled monthly meeting the HMPC used worksheets to gather information from county agency representatives and local municipal staff that participated in the planning process. These worksheets were designed to collect information about the hazards that affect the county, and how those hazards impacted each of the municipalities. Additional worksheets were used to gain information about the mitigation strategy, including a review of the 2018 goals and actions to determine their efficacy and identify edits or additional information to include in the 2023 update. Completed versions of these forms are included in Appendix D – Meeting and Other Participation Documentation.

The plan format is structured in accordance with the most current planning guidance from FEMA, Local Mitigation Planning Handbook (May 2023). The Plan Update was led by the HMPC and informed by the Planning Team. Community leaders and other agency and organizational stakeholders were invited by JCOHSEM to attend monthly meetings and participate in the plan update process.

3.2. The Hazard Mitigation Planning Committee (HMPC)

The HMPC assembled for the 2023 Hazard Mitigation Plan Update included county agency staff, county and local officials, and municipal representatives. Stakeholders including staff from local utilities, educators, healthcare professionals, regional employers, neighboring communities, and the public. The HMPC was assembled to guide the overall direction of the Hazard Mitigation Plan Update and make decisions pertaining to its completion in conjunction with Jefferson County and the consultant team. Table 3-1 details the members of the 2023 HMPC. The primary roles of the HMPC included providing risk assessment, determining capability updates, and providing technical expertise and mitigation action development. All participation documentation including meeting sign-in sheets are provided in Appendix D – Meeting and Other Participation Documentation.

Table 3-1: 2023 Hazard Mitigation Planning Committee Invited Stakeholders

Name	Organization	Meeting Participation
Allen, Steve	JCHSEM	1 / 2 / 3 / 4
Armentrout, Michael	Harpers Ferry Police Department	2 / 3
Ath, Clare	Jefferson Co. Commission	
Auxer, Jim	Shepherdstown	
Barre, Jennifer	Private Citizen	2 / 3
Beall, Andy	Shepherdstown Floodplain Manager	1
Benites-Im, Edwina	Jefferson Co. Development Authority	1 / 2 / 3
Boyd, Amy	Shepherdstown	
Brockman, Jennie	Jefferson Co. Planning and Zoning	
Brown, J.D.	Harpers Ferry Police Department	2
Burns, Becky	Jefferson Co. Engineering Department	
Butcher, Thomas	Potomac Edision	1
Butler, George	CBP/ATC	
Carter, Mason	Jefferson Co. Engineering Department	1
Caton, Brandon	Jefferson Co. BOE	3
Channel, Jackie	Jefferson County Clerk	2
Cogel, Earl	Blue Ridge Fire Company	
Dettmer, Helen	Bolivar	
Edwards, Sallie	Volunteer	1
Fernandes, Nuno	American Public University	
Freund, Jon	Kent Cartridge	1
Frye, Holly Morgan	Shepherd University	
Gatto, Laura	Hollywood Casino	
Goldman, Michele	Jefferson Co. COAD	
Goodwin, Roger	Jefferson Co. Engineering Dept.	
Gormont, Jessica	Jefferson Co. GIS	1 / 2 / 3 / 4

Table 3-1: 2023 Hazard Mitigation Planning Committee Invited Stakeholders		
Name	**Organization**	**Meeting Participation**
Green, Sanford	WVDHSEM	3
Grove, Stephanie	Shepherdstown	1
Grubb, Donnie	WVU Medicine	
Hansen, Tom	Jefferson Co. Sheriff's Dept.	
Herbst, Larry Jr.	Citizens Fire Company	
Horn, Craig	Jefferson Co. Emergency Services Agency	
Hott, Jesse	American Red Cross	2 / 3
Jackson, Tricia	Jefferson Co. Commission	
Jenkins, Andrew	CBP/ATC	1
Jimeno, Dan	Town of Bolivar	3
Krouse, Jennifer	Jefferson Co. Commission	2 / 3
Kuhn, Laura	Jefferson Co. Maintenance	
Kutcher, Chris	Charles Town Police Department	
Levins, Ryan	Harpers Ferry NHP	4
Low, Bruce	Citizen	3 / 4
Mantheiy, Keith	US Fish and Wildlife Service	2
Maraugha, Lori	Shepherd University	
Marchun, Alan	WV Public Health	
Marrone-Reese, Paula	Good Shepherd Inter-Faith	
Mood, Michael	Middleway Fire Company	
Morgan, Ross	Shepherdstown Fire Company	
Morrow, Emily	WVU Extension Service	
Morse, Pat	Harpers Ferry	
Murphy, Kerry	NCTC	2
Myers, Dick	Jefferson Co. OHSEM	1 / 2 / 3 / 4
Newman, James	Charles Town Floodplain Management	3
Pardis, Steve	Harpers Ferry Water Works	2 / 3
Parkin, Jonnie	Volunteer	
Parsons, Kelly	Nichols, Dehaven & Associates	1 / 2
Pennington, Matt	Downstream Strategies	
Pierson, Duke	Ranson	
Pippel, Jeff	Jefferson Co. Utilities	1 / 2 / 3 / 4
Polczynski, Jeff	Jefferson Co. Emergency Communications	
Reidy, Terrence	Jefferson Co. Health Department	1 / 2 / 3
Roberts, Robbie	Ranson Police Department	
Rosier, Stephanie	WVEMD	
Schwartz, Jeff	Jefferson Co. Solid Waste Authority	

Table 3-1: 2023 Hazard Mitigation Planning Committee Invited Stakeholders		
Name	**Organization**	**Meeting Participation**
Sell, Robert	Jefferson County Sheriff's Office	2 / 3 / 4
Shadle, Jacqueline	Jefferson County Clerk	2 / 3 / 4
Sherwood, John	Volunteer	
Shuler, Eric	Shepherd University	
Shultz, April	Charles Town Utilities	
Shutts, Ronnie	Friendship Fire Company	
Sine, Mike	Jefferson Co. Emergency Services Agency	3 / 4
Sisco, Gino	Jefferson Co. Health Department	
Smith, Josh	Bakerton Fire Company	
Smith, Ed	Independent Fire Company	
Smooth, Stephen	Rep. Alex Mooney's Office	
Snavely, Rachel	Region 9	3
Snyder, Lee	Snyder Environmental	
Stanley, Reiley	Ranson Floodplain Manager	2
Sotomayor, Ben	Harpers Ferry Job Corps	
Stolipher, Steve	Jefferson Co. Commission	
Strong, Chris	National Weather Service	
Tabb, Jane	Jefferson Co. Commission	
Taylor, Joe	CSX	
Thomas, Andrea	American Water	
Trainor, Bob	City of Charles Town	
Vaughn, Gregory	Harpers Ferry	
Vezzosi, Carolyn	Charles Town	
Vosika, Matt	Kent Cartridge	1
Ware, Nathan	WV Dept. of Highways	
Watson, Adam	Independent Fire Company	
Weikle, Mason	Jefferson. Co. Health Department	1 / 2 / 3 / 4
Welch, Frank	Shepherdstown Water	1 / 2 / 3 / 4
Wells, John	Summit Point Raceway	
White, Joyce	Jefferson Co. Board of Education	1
Whyte, Monica	WV Health Department	1 / 2 / 3
Willingham, Larry	Jefferson Co. Board of Education	
Wilt, Todd	Ranson	
Whittington, Laura	Bolivar	
Zonfrilli, Makayla	Jefferson Co. Administrator	2
Khanal, Suraj	CBP/ATC	
Mark James	Michael Baker International	1 / 2 / 3 / 4

Table 3-1: 2023 Hazard Mitigation Planning Committee Invited Stakeholders		
Name	**Organization**	**Meeting Participation**
Wes Stafford	Michael Baker International	1 / 2
Sheila Hicks	Michael Baker International	1 / 2
Jeff Cragle	Michael Baker International	1 / 2
Virginia Smith	Smith Planning and Design	1 / 2 / 3
Michele King	Smith Planning and Design	1 / 2 / 3

3.3. Meetings and Documentation

JCHSEM and the consultant scheduled four in-person meetings with the HMPC; each one covered a different topic. A brief description of each meeting is presented below. Invitations, agendas, sign-in sheets, completed exercises / worksheets and minutes for these meetings are included in Appendix D – Meeting and Other Participation Documentation.

3.3.1. Planning Team Kickoff Meeting May 5, 2023

The Planning Team consisting of director and deputy director of JCOHSEM and consulting staff was created at project inception and met on May 5, 2023 to initiate the 2023 Hazard Mitigation Plan update. During this meeting the consultants went over the scope of work, expectations and deliverables. A list of new stakeholders and committee members was provided pre meeting and new membership to include regional perspectives was discussed during the meeting. Jefferson County staff compiled a list of HMPC members and provided it to the consultant to send out upcoming plan invitation emails.

Given the short timeline the planning team agreed to meet on a by weekly basis to provide updates, discuss data challenges, public outreach efforts, and set action items. The planning team also agreed to establish a monthly HMPC meetings on the 4th Thursday of each month. Committee meetings were hybrid and started at 1PM at the Hospice of the Panhandle 330 Hospice Ln, Kearneysville, WV.

- First Meeting, Project Kickoff - 1.5 hours
- Second Meeting, Hazard Analysis / Risk Assessment - 2 hours
- Third Meeting, Mitigation Strategy Development - 4 hours
- Fourth Meeting, Draft Plan Review - 2 hours

Plan milestones and deliverables were scheduled in line with the HMPC meetings. The consultant developed a task tracker that kept the plan on schedule and was used to provide County Council updates.

The JCOHSEM website was used to post plan updates, and public surveys with linked notifications sent to HMPC members to disseminate to their networks. Plan format including colors, design and GIS map templates were also agreed on during this meeting.

3.3.2. Hazard Mitigation Planning Committee Kick-Off Meeting - May 24, 2023, 2:30PM – 4:00PM

Held in person with a virtual option the first meeting introduced the project to county agency staff and local officials, inform community representatives of the plan update process, schedule, and evaluate hazards and risk within the county. Invitations were sent to county agencies, municipal officials and stakeholders listed in Table 3-1. The agenda for the meeting is presented below in Table 3-2.

Table 3-2: 2023 Kick Off Meeting – Committee Agenda Items

Meeting	Attendance	Agenda
May 24, 2023 2:30 - 4:00PM	24 (3 Virtual)	1. Welcome and Introductions 2. Project Overview 3. 2023 Planning Process 4. Risk Assessment Overview and Hazard Review Exercise #1: Risk Evaluation and Identification 5. Capability Assessment and Mitigation Strategy Overview Exercise #2: Capability Assessment Survey 6. County NFIP Survey Results 7. Equity & Social Vulnerability 8. Five-Year Plan Review 9. Next Steps and Action Items

The Jefferson County Director of Homeland Security and Emergency Management welcomed everyone to the meeting, briefly introduced the project and turned the meeting over to the Consultant. A brief review of the definition of mitigation and the importance of mitigation planning was covered. The group went over the different parts that integrate the hazard mitigation plan. During this initial introduction, expectations and the importance of committee member participation throughout plan update process was stressed. A tentative schedule for the plan update with meeting dates, agenda items, and expected progress was presented to the HMPC.

Meeting attendees were asked to fill out hazard identification and risk assessment worksheets. The purpose of the exercise was to evaluate previously profiled hazards and to identify any new hazards that exist. Committee members agreed that there was an increase in magnitude or occurrence of impacts in all but 4 hazards. earthquake, infestation, and dam failure saw no change in the last 5 years and severe winter storm saw a decrease. Additional hazards that will be considered in the 2023 plan update include karst/sinkholes, utility interruption and cyber security. A community capability assessment worksheet was also circulated to municipalities as homework after the meeting. The purpose of this worksheet was to gain insight on available resources and document capabilities of county agencies and within each municipality. A third worksheet that addressed equity and social vulnerability was circulated to gain information on known areas of social vulnerability, shifts that committee members have seen in needs to address equity, and suggested ways to include equity and social vulnerability into planning and services. Photographs of the meeting can be seen in Figure 3-1.

Figure 3-1: Jefferson County Hazard Mitigation Plan Kick-Off Meeting

3.3.3. Hazard Analysis & Risk Assessment Meeting – June 27, 2023, 1:00PM – 3:00PM

The second HMPC Meeting was held in person with a virtual option on June 27. The focus of this meeting was to have the committee members prioritize Jefferson County's hazard vulnerability and discuss the progress of mitigation actions from the 2018 Plan. Invitations were sent to each municipality, county departments and stakeholders listed in Table 3-1. The agenda for the meeting is presented below in Table 3-3.

Table 3-3: Hazard Analysis and Risk Assessment Meeting – Committee Agenda Items

Date	Attendance	Agenda
June 27, 2023, 1:00 – 3:00PM	22 (3 Virtual)	1. Welcome and Introductions 2. Project Update & Recap of May 24 Meeting 3. Risk Assessment Overview & Hazard Identification Exercise #1: Risk Ranking Evaluation 4. Mitigation Strategy Discussion Exercise #2: Mitigation Action Progress (Take Home) 5. Next Steps and Action Items

The Jefferson County Director of Homeland Security and Emergency Management welcomed everyone to the meeting, briefly introduced the project and turned the meeting over to the Consultant. A recap of the May 24 meeting was provided, emphasis was placed on participating municipalities roles and responsibilities, expansion to a diverse cross section of participants and the importance of participating in the importance of applying for FEMA Hazard Mitigation Assistance funds.

An overview of what was included in the 2018 plan versus what is addressed in the 2023 plan was provided. There are three new hazards addressed in the 2023 plan:

- Karst / Sinkholes
- Utility Interruption
- Cyber Terrorism

The consultant explained that the profiles for each hazard provided in the risk assessment section use the same format so the reader can easily refer one to the other and recognize the content. Hazard profiles were distributed to the HMPC for review with summary sheets as they were completed. Two example hazards (floods and dams) were reviewed and details on what to expect in the plan was presented.

Meeting attendees were asked to complete a hazard risk ranking evaluation. This exercise allows the reviewer to prioritize new and previously profiled hazards. HMPC members were asked to evaluate each hazard using a risk assessment ranking of 1 to 5 for five categories: Probability, Impact, Spatial Extent, Warning Time, and Duration. A sample of the exercise is provided in Figure 3-2.

Figure 3-2: Risk Ranking Evaluation Exercise for Prioritizing Current and New Hazards

Prioritizing Hazards Using Risk Assessment

This worksheet summarizes **Jefferson County** risk ratings for hazards profiled in the 2018 Hazard Mitigation Plan. How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? Please grade each **Risk Assessment Category** with Degree of Risk Index Number (1,2,3,or 4) defined on the attached **Risk Methodology Sheet**.

Community/Organization:	
Name and Title:	

HAZARD	RISK ASSESSMENT CATEGORY					RISK FACTOR	NC=No Change I=Increase D=Decrease (Results from May 24 Meeting)	Explanation for hazards marked I or D (Results from May 24 Meeting)
	PROBABILITY	IMPACT	SPATIAL EXTENT	WARNING TIME	DURATION			
Drought							I	Climate Change (Greater Chance) Decrease in Water Levels
Earthquake							NC	
Extreme Temperatures							I	Climate Change (More Frequent and Longer)
Flood							I	Climate Change (More Extreme)
Invasive Species							NC	
Land Subsidence							I	Increase in Sinkholes
Landslide							I	Rockslides in Harpers Ferry
Public Health Crisis							I	Covid Pandemic Threat of Homemade Viruses Increase Cases of Diabetes & Mental Health (see Community Needs Assessment)
Severe Thunderstorm and Hail							I	Climate Change (More Frequent)
Severe Wind and Tornado							I	Climate Change (More Frequent and Stronger)

A take-home exercise was provided to hazard mitigation committee members to review and provide an update on hazard mitigation actions that were presented in the 2018 Plan. Committee members were asked to review each action and determine if it was completed, canceled, deferred or is ongoing. In

preparation for the next meeting an introduction to mitigation techniques was provided. Five types of mitigation activities were covered: Plans and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, Education and Awareness Programs, and Emergency Response/Recovery Opportunities. The public notice and invitation to participate in the 2023 Hazard Mitigation Plan survey on the Jefferson County website can be seen in Figure 3-3. A photograph of the hazard analysis & risk assessment meeting can be seen in Figure 3-4.

Figure 3-3: Invitation to Participate in the 2023 Jefferson County Hazard Mitigation Plan

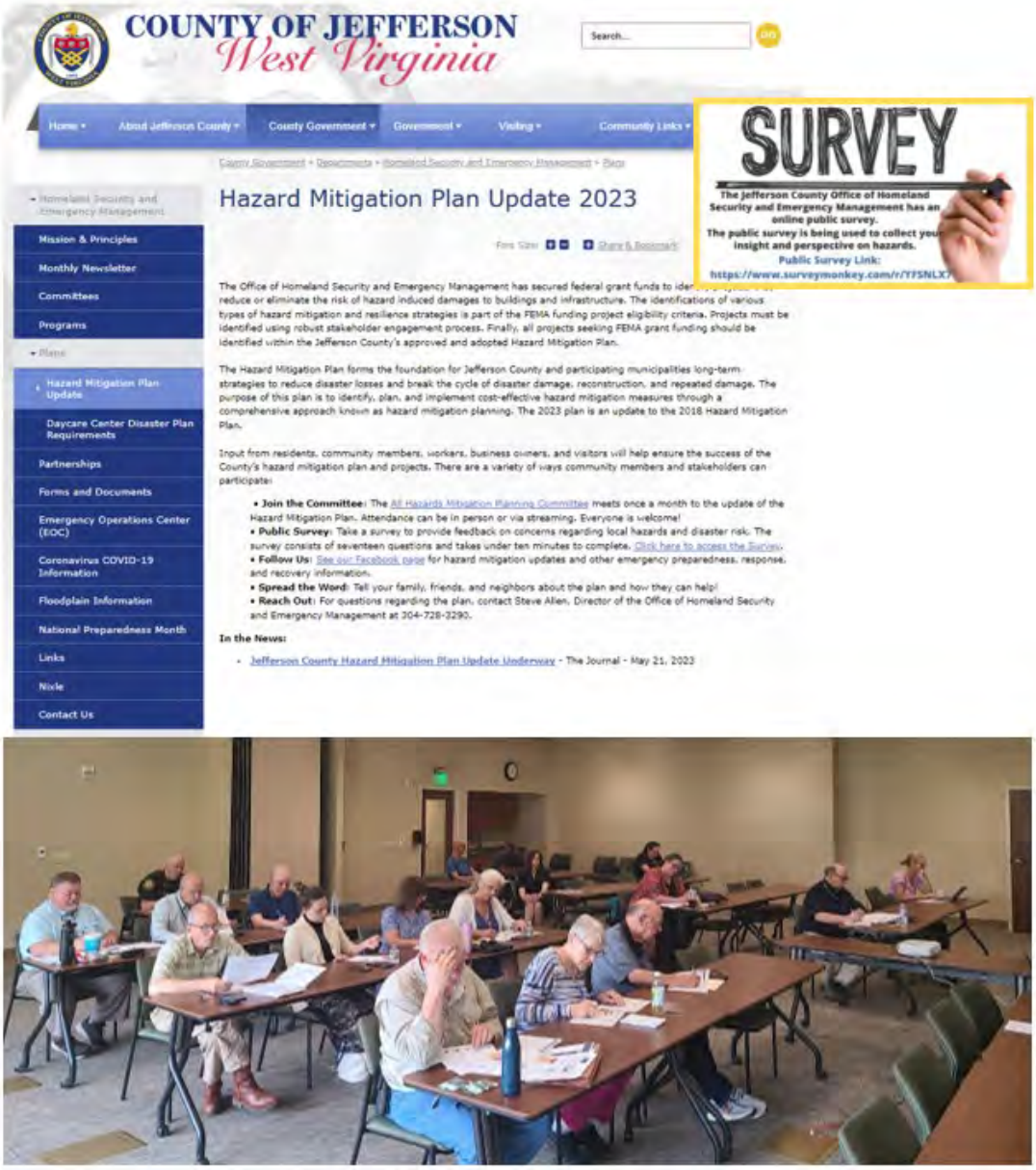


Figure 3-4: Jefferson County Hazard Analysis and Risk Assessment Meeting

3.3.4. Mitigation Strategy Workshop – July 26, 2023, 11:00AM – 3:00PM

The third Hazard Mitigation Committee Meeting was held in person on July 26. The focus of this meeting was to have HMPC members review and update plan goals, review and add mitigation actions, and develop project sheets. Save the dates and Invitations were sent to each municipality, county departments and stakeholders listed in Table 3-1. The agenda for the meeting is presented below in Table 3-4.

Table 3-4: Mitigation Strategy Workshop – Committee Meeting Agenda

Date	Attendance	Agenda
July 26, 2023, 11:00AM – 3:00PM	28	1. Welcome and Introductions 2. Project Update & Recap of June 27 Meeting 3. Mitigation Workshop Goals – Review & Update Mitigation Actions – Review, Update, & Add New Mitigation Projects – Develop for 2023 Plan 4. Next Steps and Action Items

After a recap of the past two meetings committee members were asked to sit in assigned groups that consisted of 5 key groups:

- Municipal
- Emergency Services & Public Health
- Education and Public Awareness
- Local Planning and Regulations
- Natural Resources and Protection

Committee members were then asked to review the 2018 hazard mitigation plan goals. The groups were instructed to keep remove or modify existing goals, and add new goals. Committee members were provided goals form the 2023 West Virginia Plan and the goals from the 2018 Jefferson County plan for reference. The resulting goals and objectives are available in Chapter 5: Mitigation Strategies. Specific modifications made to goals and objectives are available in the workshop's meeting notes, Appendix D – Meeting and Other Participation Documentation.

Prior to the mitigation strategy workshop HMPC members were tasked with providing information on the current status of mitigation actions (e.g., Completed, Canceled, Delayed, or Ongoing). Each mitigation project included the following information for committee members to review:

- Project Number
- Project Description
- Hazards Addressed
- Assigned Group

A total of seventy three (73) mitigation actions from the 2018 plan were evaluated during this workshop. Committee members had the opportunity to review each action and determine if it should be carried over into the 2023 plan. All mitigation actions included in this plan were either proposed by committee members or were identified from risk and vulnerability assessments conducted within the hazard profiles.

Each group was provided with reference material to aid in completing a mitigation action worksheet. When finished, each group reported their findings to the larger group, including their top action items and whether or not they added any new mitigation projects. Fourteen (14) new action items were developed during the workshop. Action items identified as being most important were further developed into mitigation projects based on the information gathered during the workshop. Results of the Mitigation Workshop are included in Chapter 5: Mitigation Strategy.

Following the workshop, an online prioritization survey was distributed to HMPC members to determine "high", "medium", and "low" priority projects. Results of this survey indicated six "high" priority mitigation projects. High priority projects include the following:

Project 4: Snow Removal MOU and Debris Management Plan
Project 5: Dark Grid Training & Exercises
Project 13: Citizen Preparedness Training and Outreach
Project 14: Hazard Materials Response Plan and Training

Prioritization results and completed project sheets are available in Chapter 5: Mitigation Strategy.

As part of the Mitigation Workshop held on July 26, municipal representatives worked together as a group to identify municipal specific action items. The municipal group evaluated 49 actions and independently identified up to 5 priority mitigation projects per municipality.

3.3.5. Draft Plan Review & Public Open House August 29, 2023, HMPC 1:00PM-2:00PM / Public 2:00PM-5:00PM

The purpose of this final HMPC meeting was to provide general findings in the Jefferson County draft plan. The agenda for the meeting is presented below in Table 3-5. The meeting was an open house format where committee members were provided a briefing on the results of the mitigation strategy workshop for both County-wide projects and municipal specific priority projects. Results of the public survey were presented and compared to how committee members rated hazards and capabilities. Results of the public survey are included in Appendix D. During the meeting, committee members were able to reviewed an electronic copy of the draft plan and a question-and-answer period was used to gain feedback on plan details, process and next steps.

The meeting space was then opened to the public for a 3-hour period, during which a running slide show summarizing the elements of the plan, committee meetings and results of the plan played, and large hazard maps were displayed for the public to view. The public open house was promoted in the bi-monthly newsletter, on the County website and at the County Fair. Three members of the public attended the open house.

Table 3-5: Open House – Committee Agenda Items

Date	Attendance	Agenda
August 29, 2023 1:00PM – 5:00PM	11 (3 Public)	1. Risk Assessment Survey vs Committee Results 2. Results from Last Meeting 3. Next Steps and Action Items 4. Welcome in Public

The HMPC determined that a 2-week review period should be allowed for members to provide comment and feedback on the final draft plan. A draft version of the plan was circulated to committee members during the first week of September and comments collected and discussed during a September 18 virtual HMPC meeting.

3.4. Public and Stakeholder Participation

Each municipality was given multiple opportunities to participate in the plan update process through invitation to above outlined meetings, review of risk assessment results and mitigation actions, and an opportunity to comment on a final draft of the 2023 Hazard Mitigation Plan Update. The tools listed below were distributed with meeting invitations, at meetings, and on the JCHSEM website to solicit information, data, and comments from both local municipalities and other key stakeholders in Jefferson County. Responses to these worksheets and surveys are included in Appendix D: Meeting Participation Documentation.

1. **Evaluation of Identified Hazards and Risk Worksheet:** Collects information on hazards identified in the 2018 Plan regarding whether there have been changes to the frequency of

occurrence, magnitude of impact, or geographic extent of hazards over the past 5 years. In addition, the form asks members of the HMPC to select any additional hazards they believe should be considered for inclusion in the 2023 Plan.

2. **Capability Assessment Survey:** Collects information on local planning, regulatory, administrative, technical, fiscal, political, and resiliency capabilities that can be included in the plan's Capability Assessment section.
3. **National Flood Insurance Policy (NFIP) Survey:** Collects information on the County and municipality's floodplain management program and ordinance enforcement of NFIP standards and requirements.
4. **Social Equity Survey:** Collects information on shifts in the needs of underserved communities or gaps in social equity and if there has been any effort to include social equity and/or vulnerability into any planning or services.
5. **Prioritizing Hazards Using Risk Assessment Worksheet:** Calculates the risk factor associated with each hazard using a rating system to evaluate risks based on 5 factors: Probability, Impact, Spatial Extent, Warning Time, and Duration. The results of this workshop was factored into prioritizing hazards.
6. **Mitigation Action Review Form:** This exercise was used to review mitigation actions that were identified in the 2018 Hazard Mitigaiton Plan to provide the current status of each action and document any progress made.
7. **New Mitigation Action Worksheet**: This form was provided to include new actions in the HMP. The purpose was to collect details about the action, including priority, responsible parties, potential partners, potential funding sources, implementation and timeframe.

Community participation and comment were encouraged throughout the planning process. Press releases were issued before monthly HMPC meetings. During the Jefferson County Kick-off meeting, there was an active discussion amongst participants regarding planning ideas and stakeholder engagement. Participants discussed how current programs could be improved, as well as the shortcomings of communication during the COVID-19 pandemic. At the Draft Plan Review & Public Open House, participants discussed remaining ideas for new mitigation actions, particularly regarding transportation accidents and hazardous materials and the implementation of a more advanced reverse 911 system.

Public input was also solicited through an online hazard mitigation survey composed by Jefferson County and disseminated on Jefferson County agency and municipal websites. The survey collected demographic data of respondents, had respondents assess hazard risks, asked for mitigation action ideas, and gauged respondents' participation in public hazard mitigation efforts. About 56 residents participated, a large increase from the 2018 survey. Participants were most concerned about utility interruption, hazardous materials, and severe thunderstorms. Hazards that were rated as lowest concern included landslide, dam failure, and earthquake. Most participants felt that their county and municipality ability to handle a hazard event was average. Overall, residents agreed that cell phone alerts are the most effective way for the community to alert and advise them during a hazard event. Participants were most concerned with not having access to clean water, not having electrical power for extended time, not having police or fire

protection, not having access to medical services and required medicine, and not being able to get warning messages or other information regarding the hazard.

A posting made to JCOHSEM website notifying residents of the survey can be seen in Figure 3-5. Full Survey results can be found in Appendix D.

Figure 3-5: Hazard Mitigation Survey Link posted to Jefferson County OEM Facebook

Figure 3-6: Eastern Panhandle Talk on WRNR Talk radio FM 106.5/AM 740

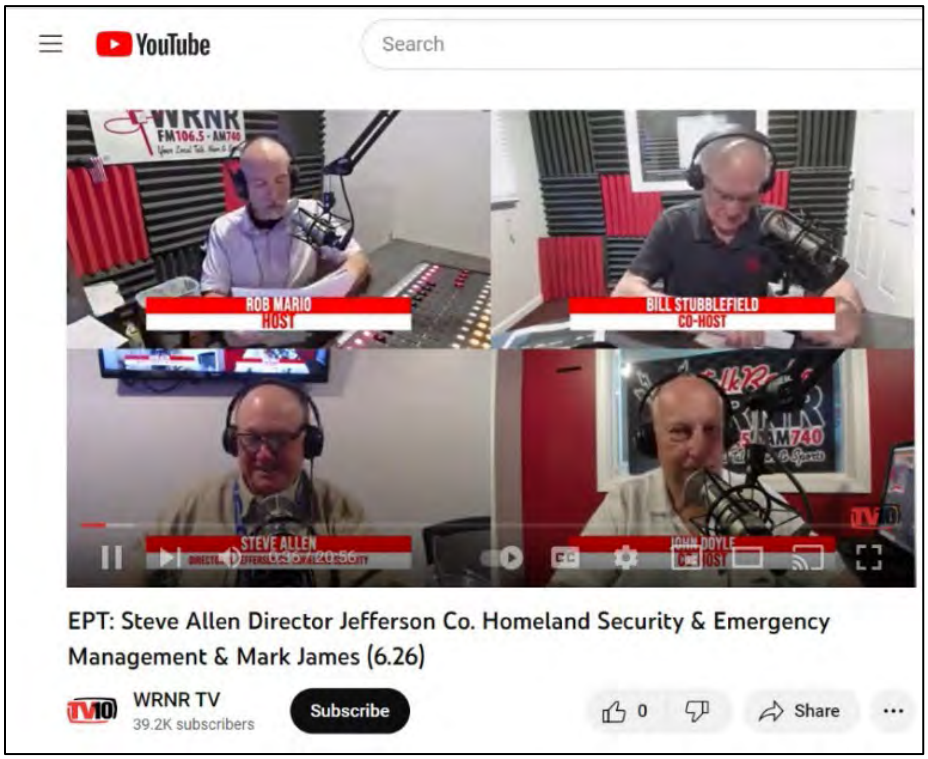
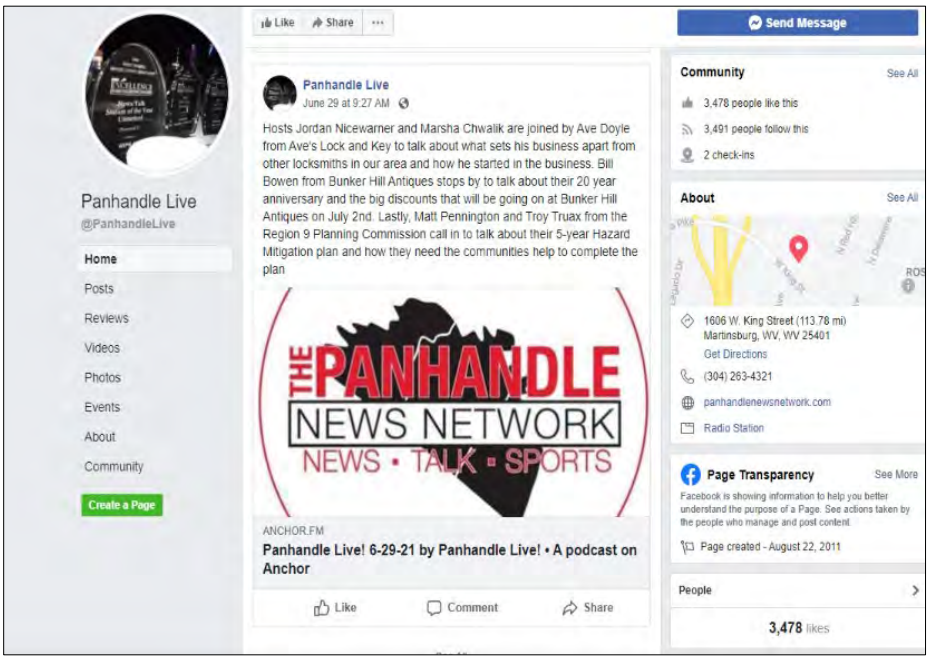


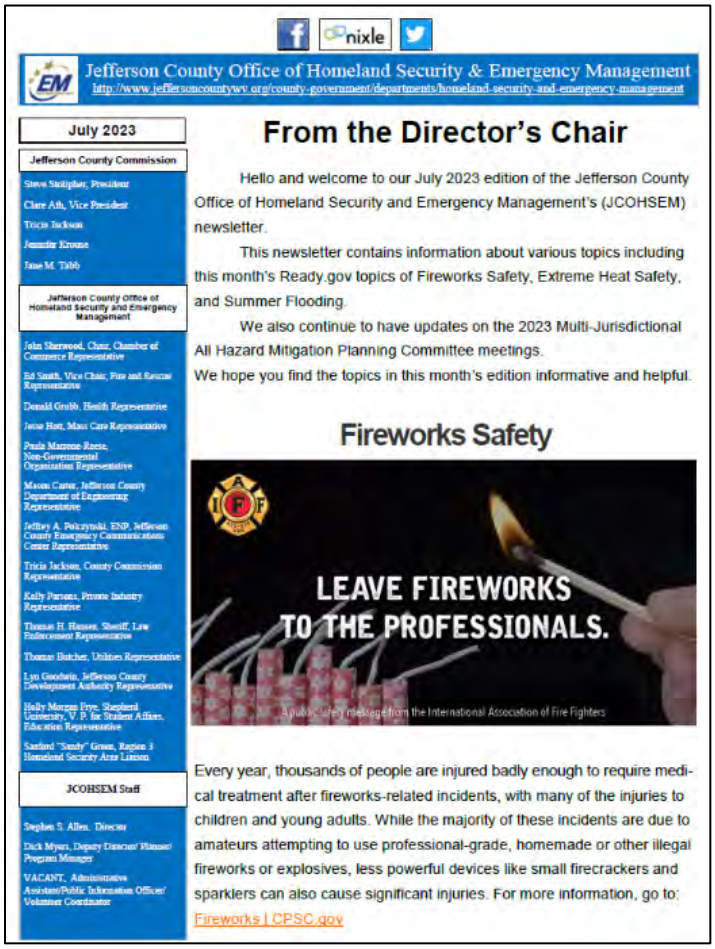
Figure 3-7: Facebook posting of June 29, 2021 HMP radio show and photo from live broadcasting.



JCHSEM and their consultant participated in two radio shows discussing the Plan update. The radio shows provided an opportunity to answer the public's questions and involve them in the planning process. The radio shows covered topics such as what is a Hazard Mitigation Plan, what the benefits of having an HMP in place are, and how the HMP update process works. A June 21, 2023 radio appearance on the show Panhandle Live on 93.7 & 1340 WEPM and 93.5 & 1010 WCST can be replayed at Panhandle News Network - WEPM/WCST. A June 26, 2023 radio appearance on the show Eastern Panhandle Talk on WRNR Talk radio FM 106.5/AM 740 can be replayed Radio Shows - Talk Radio WRNR. A posting in the Panhandle Live Facebook page about the show can be seen in Figure 3-7. Broadcast talking notes for both radio shows are presented in Appendix D.

A press release was issued by Jefferson County on May 19, 2023 and a newspaper notice was published in the Journal inviting the citizens of Jefferson County to participate in the 2023 Hazard Mitigation Plan update and plan to attend a series of meetings that will be scheduled throughout the summer of 2023. A copy of the May 19, 2023, Journal newspaper notice is presented in Figure 3-8 and the press release is included in Appendix D. A second press release was issued on August 21, 2023 that provided details on the importance of participating in the public survey.

Figure 3-8: Journal Newspaper News Release (JCHSEM July Newsletter Cover)



Jefferson County Office of Homeland Security & Emergency Management
http://www.jeffersoncountywv.org/county-government/departments/homeland-security-and-emergency-management

July 2023

Jefferson County Commission
Steve Stolfuhar, President
Clare Ath, Vice President
Tricia Jackson
Jennifer Krouse
Jane M. Tabb

Jefferson County Office of Homeland Security and Emergency Management
John Sherwood, Chair, Chamber of Commerce Representative
Ed Smith, Vice Chair, Fire and Rescue Representative
Donald Grubb, Health Representative
Jesse Hott, Mass Care Representative
Paula Marrone-Reese, Non-Governmental Organization Representative
Mason Carter, Jefferson County Department of Engineering Representative
Jeffrey A. Pekzynski, ENP, Jefferson County Emergency Communications Center Representative
Tricia Jackson, County Commission Representative
Kelly Parsons, Private Industry Representative
Thomas H. Hauser, Sheriff, Law Enforcement Representative
Thomas Butcher, Utilities Representative
Lyn Goodwin, Jefferson County Development Authority Representative
Holly Morgan Frye, Shepherd University, V.P. for Student Affairs, Education Representative
Sanford "Sandy" Green, Region 3 Homeland Security Area Liaison

JCOHSEM Staff
Stephen S. Allen, Director
Dick Myers, Deputy Director/ Planner/ Program Manager
VACANT, Administrative Assistant/Public Information Officer/ Volunteer Coordinator

From the Director's Chair

Hello and welcome to our July 2023 edition of the Jefferson County Office of Homeland Security and Emergency Management's (JCOHSEM) newsletter.

This newsletter contains information about various topics including this month's Ready.gov topics of Fireworks Safety, Extreme Heat Safety, and Summer Flooding.

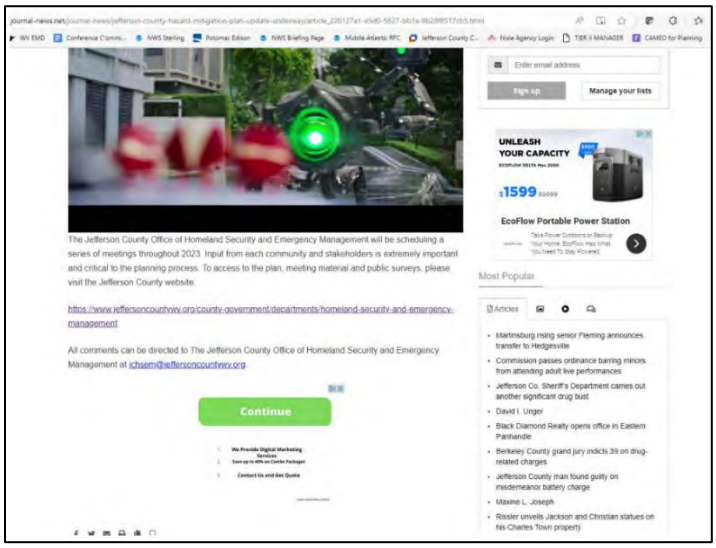
We also continue to have updates on the 2023 Multi-Jurisdictional All Hazard Mitigation Planning Committee meetings.

We hope you find the topics in this month's edition informative and helpful.

Fireworks Safety

Every year, thousands of people are injured badly enough to require medical treatment after fireworks-related incidents, with many of the injuries to children and young adults. While the majority of these incidents are due to amateurs attempting to use professional-grade, homemade or other illegal fireworks or explosives, less powerful devices like small firecrackers and sparklers can also cause significant injuries. For more information, go to: Fireworks | CPSC.gov

Figure 3-9: The Journal Posting of the Jefferson County 2023 & Jefferson County Homeland Security Emergency Management Monthly Newsletter – Hazard Mitigation Plan Update



The Jefferson County Office of Homeland Security and Emergency Management will be scheduling a series of meetings throughout 2023. Input from each community and stakeholders is extremely important and critical to the planning process. To access to the plan, meeting material and public surveys, please visit the Jefferson County website.

https://www.jeffersoncountywv.org/county-government/departments/homeland-security-and-emergency-management

All comments can be directed to The Jefferson County Office of Homeland Security and Emergency Management at jchsem@jeffersoncountywv.org.

Continue

JCOHSEM issues a monthly newsletter that is distributed to 325 readers. The July edition of the newsletter featured a 2 page article on the 2023 Hazard Mitigation Plan Update with a link and QR code to the public survey. A copy of the July newsletter cover is presented in Figure 3-8 and a full copy of the newsletter is included in Appendix D. JCOHSEM also had a stand at the Jefferson County Fair from August 20 through 26 which they were able to connect with over 150 people on topics of hazard mitigation.

Figure 3.10: Jefferson County Fair Add and JCOHSEM stand

All HMPC members and stakeholders could review plan updates and download plan material on the County's Office of Homeland Security and Emergency Management website:

https://www.jeffersoncountywv.org/county-government/departments/homeland-security-and-emergency-management.

This website included general resources pertaining to hazard mitigation planning, posts of upcoming events, and project announcements. In addition, meeting and workshop materials were posted including: the agenda, PowerPoint presentation, draft plan sections and worksheets.

The 2023 Draft Hazard Mitigation Plan was posted on County's website beginning September 4, 2023 and a public comment period was held for 14 days. The availability of the draft Hazard Mitigation Plan was made public by disseminating the information to the HMPC via email. Committee members were instructed to submit comments in writing via email to JCHSEM staff.

3.5. Multi Jurisdictional Planning

This Hazard Mitigation Plan was developed using a multi-jurisdictional approach. Though county level departments have resources such as technical expertise and data which local jurisdictions may lack; involvement from local municipalities is critical to the collection of local knowledge related to hazard events. Local municipalities also have the legal authority to enforce compliance with land use planning and development issues. The HMPC undertook an intensive effort to involve all five municipalities in the planning process.

Table 3-6 documents local jurisdictional presence at the meetings and other involvement from each jurisdiction throughout the planning process. Each jurisdiction was emailed invitations to all meetings and, received reminders prior to each meeting. Surveys and forms were provided at meetings emailed to

jurisdictions along with letters requesting that local information be provided. All five municipalities in Jefferson County participated in the plan, thus achieving 100 percent participation.

Table 3-6: County and Municipal Participation in 2023 Hazard Mitigation Planning Process

Participation Summary		Jefferson County	Bolivar	Charles Town	Harpers Ferry	Ranson	Shepherdstown
Meetings	**Hazard Mitigation Committee Kick-Off** May 24, 2023	✓					✓
	Hazard Analysis & Risk Assessment June 27, 2023	✓	✓		✓	✓	✓
	Mitigation Strategy July 26	✓	✓	✓	✓	✓	✓
	Draft Plan Review / Public Meeting August 29, 2023	✓			✓		✓
Worksheet	**Identified Hazards and Risk**	✓	✓	✓	✓	✓	✓
	Community Capability Assessment	✓	✓	✓	✓	✓	✓
	Mitigation Action Review	✓	✓	✓	✓	✓	✓
	New Mitigation Action and Priorities	✓	✓	✓	✓	✓	✓

4. Risk Assessment

4.1. Update Process Summary

To reduce the potential for damage due to hazards, it is necessary to identify hazards that may affect Jefferson County. Hazards that may affect the county are identified and defined in terms of location and geographic extent, magnitude of impact, previous events, and likelihood of future occurrence. All information from the previous plan has been included or updated in the 2023 Jefferson County Hazard Mitigation Plan Update, unless otherwise indicated. The HMPC reviewed the hazards profiled in the 2018 Jefferson County Hazard Mitigation Plan Update during the May 24 Kick-Off Meeting. The HMPC determined that all the existing hazards should be carried over into the 2023 plan update and decided that Cyber Terrorism, Utility Interruption and Karst / Sinkholes should be profiled as additional hazards in the 2023 plan update. The hazards selected by the HMPC were then reviewed at the June 27 Hazard Analysis & Risk Assessment Meeting. The municipalities completed an Evaluation of Hazards and Risk Form to indicate their jurisdictional risk to each hazard that would be profiled in the 2023 plan.

Hazard profiles were then developed to define the characteristics of each hazard as it applies to the county. This process was completed using published information and websites that address hazards globally, nationally, within West Virginia, or specifically within the county, as well as anecdotal information provided by members of the HMPC.

Following hazard identification and profiling, a vulnerability assessment was performed to identify the impact of natural hazard events on people, buildings, infrastructure, and the community. Each natural hazard is discussed in terms of its potential impact on individual communities in Jefferson County, including the types of parcels and critical facilities that may be at risk. This assessment allows the county and its municipalities to focus mitigation efforts on areas most likely to be damaged or most likely to require early response to a hazard event. A vulnerability analysis was performed which identifies structures, critical facilities, or people that may be impacted by hazard events and describes what those events can do to physical, social, and economic assets. Depending upon data availability, assessment results consist of an inventory of vulnerable structures or populations.

4.2. Disaster Declarations

Under the Stafford Act, there are two forms of presidential action that authorize federal disaster assistance dollars. Emergency declarations trigger aid that protects property, public health, and safety and lessens or averts the threat of an incident becoming a catastrophic event. Given their purpose, the emergency declarations may precede an event. A major disaster declaration is generally issued after catastrophes occur and constitutes broader authority for federal agencies to provide supplemental assistance to help state and local governments, families and individuals, and certain nonprofit organizations recover from the incident. Because of the difference in these declarations, a single event may qualify for both kinds of declarations.

There is no financial threshold for an Emergency Declaration, but there are two thresholds for Presidential Disaster Declarations established under the Stafford Act: a state and a county threshold. These thresholds are based on a formula that uses the population of the jurisdiction (as recorded in the decennial Census) times a set per capita indicator. As of federal fiscal year 2021, these thresholds are $3.89 per capita for counties and $1.55 per capita for the state. State and county thresholds must be simultaneously attained for a Presidential Disaster Declaration to be issued. The table below identifies Presidential Disaster and Emergency Declarations that have affected Jefferson County from most to least recent. Additional declarations beyond 2003 can be found on the FEMA website at:

https://www.fema.gov/disasters/disaster-declarations.

Table 4-1: Presidential Disaster & Emergency Declarations affecting Jefferson County 1954-2021

Declaration #	Date	Event
3450*/4517*	March 13, 2020	West Virginia COVID-19
4378	May 28, 2018	Severe Storms, Flooding, Landslides, And Mudslides
3358*	October 29, 2012	Hurricane Sandy
4071	July 23, 2012	Severe Storms and Straight-Line Winds
3345*	June 30, 2012	Severe Storms
1903	April 23, 2010	Severe Winter Storms and Snowstorms
1881	December 18,2009	Severe Winter Storm
1769	June 3, 2008	Severe Storm, Tornadoes, Flooding, Mudslides, and Landslides
3221*	September 5, 2005	Hurricane Katrina Evacuation
1496	September 23, 2003	Hurricane Isabel
* Presidential Emergency Declaration		

(FEMA, 2021)

Since 1954, declarations have been issued for various hazard events including hurricanes or tropical storms, severe summer and winter storms, flooding, landslides, and blizzards. A unique Presidential Emergency Declaration was issued in September 2005. Through Emergency Declaration 3221, President George W. Bush declared that a state of emergency existed in the State of West Virginia and ordered federal aid to supplement state and local response efforts to help people evacuated from their homes due to Hurricane Katrina. All counties within the state, were indirectly affected by Hurricane Katrina as a result of evacuee assistance.

In coincidence with Presidential Emergency Declaration 3450, West Virginia Governor declared that a state of emergency existed in the State of West Virginia, in conjunction with the closure of public and governmental spaces, schools, nursing homes, recreation facilities, and retail and food service locations. All counties within the state, were subsequently affected by the COVID-19 pandemic because of these orders.

4.3. Summary of Hazards

The HMPC was provided a standard list of Hazards to consider for evaluation in the 2023 plan update. Following a review of the hazards evaluated in the 2018 HMP, the HMPC decided that the 2023 plan should identify, profile, and analyze 19 hazards. All hazards identified in 2018 plan were included in the 2023 HMP update. The hazards were reviewed by the HMPC at the May 24, Kick-Off Meeting. Each municipal attendee was provided with an Evaluation of Hazards and Risk Form. Following review of this hazards list and completion of the Evaluation of Hazards and Risk Form, the HMPC determined that Cyber Terrorism, Utility Interruption, and Karst/Sinkholes would be added as new hazards in the 2023 plan update.

4.4. Hazard Descriptions

4.4.1. Drought

Drought is a natural climatic condition which occurs in virtually all climates, the consequence of a natural reduction in the amount of precipitation experienced over a long period of time, usually a season or more in length. High temperatures, prolonged winds, and low relative humidity can exacerbate the severity of drought. This hazard is of particular concern in Jefferson County due to the presence of farms as well as water-dependent industries and recreation areas across the Eastern Panhandle. A prolonged drought could severely impact these sectors of the local economy, as well as residents who depend on wells for drinking water and other personal uses.

4.4.1.1. Location and Extent

Droughts are regional climatic events, so when these events occur in the Eastern Panhandle, impacts are often felt across the state or the region. The spatial extent for areas of impact can range from county level to the entire mid-Atlantic Region. Areas with extensive agricultural land use can experience particularly significant impacts.

Locations of droughts nationwide are monitored continuously by USGS, and the National Drought Mitigation Center at the University of Nebraska-Lincoln in concurrence with the NOAA monitors conditions throughout the state. Maps showing locations currently experiencing drought conditions are posted on various websites (including http://waterwatch.usgs.gov) and show locations where stream flow is below normal and where drought conditions exist or are emerging.

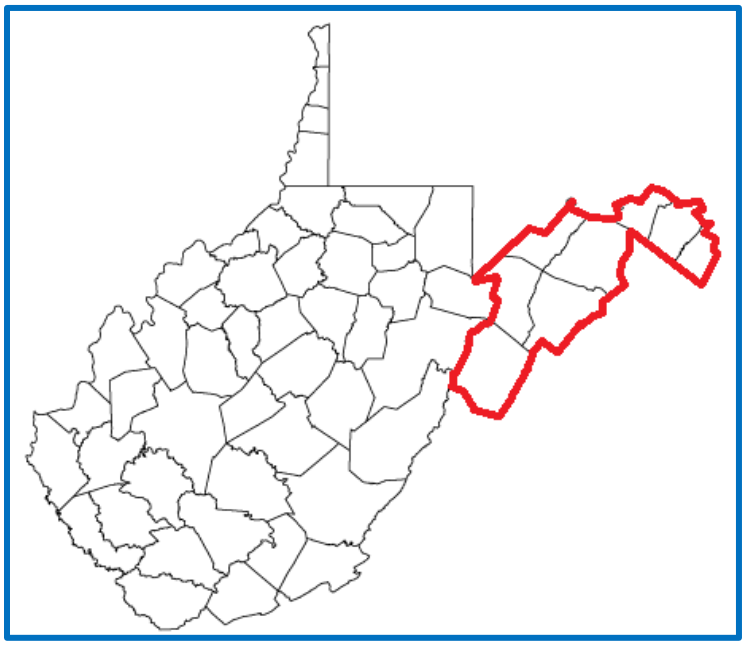
The State of West Virginia Emergency Operations plan defines four types of droughts: meteorological, agricultural, hydrological, and socio-economic drought (State of West Virginia, 2016).

- Meteorological drought is often defined by a period of substantially diminished precipitation for a duration and/or intensity that persists long enough to produce a significant hydrologic imbalance.
- Agricultural droughts occur when there is inadequate precipitation and/or soil moisture to sustain crop or forage production systems. The water deficit results in serious damage and economic loss to plant or animal agriculture, usually proceeded by a meteorological drought.
- Hydrologic drought is defined in terms of reduction of stream flows, reduction in lake or reservoir storage and lowering of groundwater levels. This results from a shift in normal weather patterns over an area causing the amount of precipitation to fall significantly below the long-term average.
- Socio-economic droughts occur when physical water shortages start to affect the health, well- being and quality of human life, or when the drought starts to affect the supply and demand of an economic product.

4.4.1.2. Past Occurrence

Minor droughts occur frequently in Jefferson County, but extended periods of severe drought that creates major disruption and economic loss are rare. The decades with the most severe droughts are 1916-1925, 1926-1935, 1966-1975, and 1996-2005. This is based on data from the National Oceanic and Atmospheric Administration (NOAA) WV Climate Division 6, which encompasses Jefferson County, as well as six other counties in Northeastern WV, as seen in Figure 4-1 (ESRL NOAA, 2021)

Figure 4-1: Northeastern WV as Defined by NOAA WV Climate Division 6 (ESRL NOAA, 2021)



The most recent severe drought in Jefferson County occurred in 1999. Every month in 1999 had a mean PDSI value of -3.00 or less. (ESRL NOAA, 2016). The drought of 1999 started in the late summer of 1998.

Below average rainfall continued for the fall and into the start of winter. In fact, in November of 1998 rainfall for most weather stations in the area was less than 1". There was little relief with some snow in January and February, but the drought expanded into the spring of 1999. An extreme drought continued into the summer of 1999 and with little moisture in the air, this means hotter temperatures. Crops were hit hard, livestock was affected, the water supply and the rivers ran nearly dry.

Average rainfall for a summer is about 12". Rainfall for the entire summer of 1999, that's June, June, and August was about what you would typically see in a month outside of a drought year. Rainfall was about 8 to 10" below average for that summer.

In the summer of 1999, the Clinton Administration declared all of West Virginia and 33 counties of Virginia an agricultural drought disaster area. Losses to farmers just in West Virginia totaled $80 million.

With the persistent and severity of the drought, rivers ran low as well as the tributaries. According to the National Weather Service report, "The Shenandoah River dropped to less than 22% of its normal flow and the water level near Strasburg was at the lowest recorded in July since records began 72 years ago."

The lack of precipitation was simply devastating for local and state agriculture. Crops just didn't have a chance to grow, or they died in the fields with the lack of rain. Even trees were shedding leaves early. This excerpt is from the National Weather Service report, " Corn that should have been 6 feet high was only waist-high at best and did not germinate." Some farmers had to reduce their herd sizes in order to stretch hay and water supplies.

Because of the drought the spring wildfire season basically extended into the summer. The Virginia Department of Forestry reported a record fire season January through July of 1999 with 1,320 fires burning 6,146 acres across the state.

This historic drought ended in the fall of 1999 for the Shenandoah Valley, but drought conditions persisted for West Virginia through the winter, and ending the following spring.

Between June 1998 and June 1999, the area received about 12 inches less rainfall than average. The local agricultural economy was impacted significantly, and Jefferson Utilities enacted emergency water restrictions. President Bill Clinton declared a disaster declaration for the entire state of West Virginia (Tuckwiller, 1999).

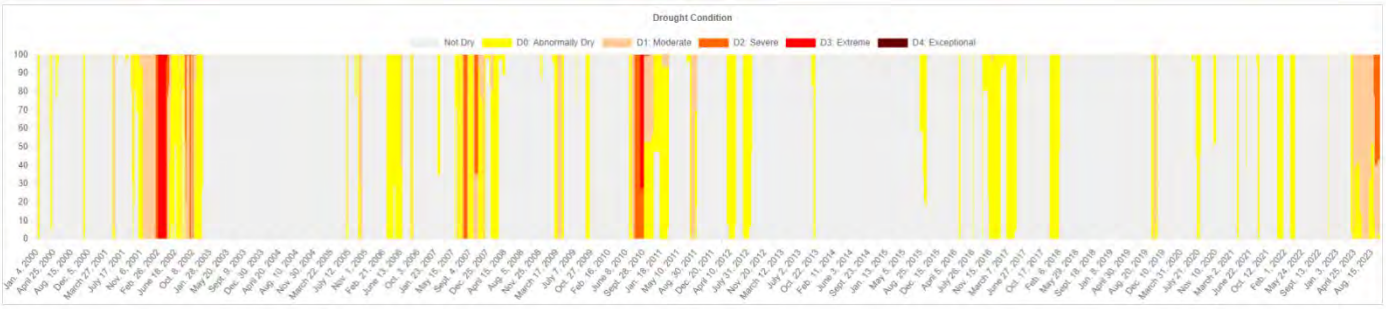
The U.S. Drought Monitor (USDM) identifies areas in drought and labels them by intensity. The map uses four categories of drought, from D1—the least intense—to D4, the most. It also highlights areas with no drought and uses the D0 category to indicate abnormally dry areas that could be entering or recovering from drought.

U.S. Drought Monitor reports three periods of extreme drought (D3) between 2000 and 2023, occurring in 2002, 2007 and 2010. The NCEI reports four droughts between 1997 and 2007, occurring in 1997, 1998, 1999, and 2007. This roughly gives a total of six significant droughts between 1997 and 2023. NCEI does not have records for the drought of 2002 in Jefferson County, the year the majority of the country

experienced droughts. In March of 2002, there was an extreme drought (D3) throughout the East Coast region. Other parts of the country experienced droughts at different times throughout the year.

Drought conditions are not spread out evenly throughout the year, or even over a period of years. As the graph above indicates, there can be several years with no drought conditions, and then more than one year with consistent drought conditions.

Figure 4-2: Jefferson County Drought Monitor Categories



On October 3, 2019, West Virginia Governor Jim Justice declared a State of Emergency for all 55 West Virginia counties due to a prolonged shortage of rainfall that caused moderate drought conditions across much of the state and severe drought conditions in southern West Virginia (State of West Virginia Executive Department, 2019). The emergency declaration proclaimed the drought reflected both meteorological and agricultural drought characteristics, and included some restrictions on water usage, as well as some voluntary measures.

As displayed in Figure 4-2, From the beginning of 2023 to the end of March, Jefferson County did not experience drought conditions. However, between the approximate 2-month period from the beginning of May to the beginning of October in 2023, nearly the entirety (96%-100%) of Jefferson County was exposed to D0: Abnormally Dry to D2: Severe Drought conditions, according to the U.S. Drought Monitor. In comparison, since the start of 2023, the Continental United States faced mixed conditions across the landscape. In January of 2023, 60-70% of the country experienced a range of D0: Abnormally Dry to D4: Exceptional Drought conditions. Between April and May 2023, the estimated percentage of "Not Dry" areas varied between 40 to 59.

The United States Department of Agriculture (USDA) Risk Management Agency (RMA) operates and manages the Federal Crop Insurance Corporation program. Since Jefferson County farms are eligible for crop insurance, it is possible to determine agricultural losses in Jefferson County. Table 4-2 displays the crop loss insurance payments by year in Jefferson County since 2010. The most losses occurred in 2010, with corn suffering the most substantial losses as defined by indemnity amount. In 2010, Jefferson County received $1,556,397 million in indemnity.

Table 4-2: Crop Loss Insurance Compensation Due to Drought (USDA RMA, 2023)	
Crop Year	**Indemnity Amount**
2010	$1,556,397
2011	$602,457
2012	$72,921
2013	$4,136
2014	$27,535
2015	$68,049
2016	$60,191
2017	$43,296
2018	$0
2019	$4,791
2020	$144,266
2021	$51,012
2022	$40,050
2023 (Year to Date)	$4,582

Crop Indemnity Maps | RMA (usda.gov)

4.4.1.3. Future Occurrence

It is difficult to forecast the severity or frequency of future drought events with any certainty. However, based on historical drought data between 1896 and 2021, northeastern WV had 93 months of moderate and severe drought (defined as a month with a mean PDSI of -3.00 or less), or spent 6.18 percent of that time in a moderate or severe drought (NOAA, 2021a). While some form of drought condition frequently exists in the region, the impact depends on the duration of the event, severity of conditions, and area affected.

Table 4-3: Severe Drought Events in Jefferson County 1997-2023 (NCEI, 2023)			
Date	**Crop Damage ($)**	**Type**	**Description and Source**
1997	$2,150,000	Severe	NCEI: A very dry month, containing one 7-day heat wave, exacerbated drought-like conditions across much of the fertile farmland of eastern West Virginia. The weather in July proved to be the death knell for much of the crop yields, including corn, hay, and pasture. The West Virginia Farm Service Agency reported the following damage statistics: Corn, hay, and pasture yields were 40 to 50 percent of normal. Estimated damage to the corn crop included 2500 to 3000 acres per county in the Potomac Highlands but as much as 10,000 acres in the eastern panhandle. Hay damage was estimated to be 40,000 acres per county; pasture lands an additional 80,000 acres per county. No significant damage to alfalfa was noted. Though some summer fruit was damaged by the drought, most of what survived was excellent.

Table 4-3: Severe Drought Events in Jefferson County 1997-2023 (NCEI, 2023)			
Date	**Crop Damage ($)**	**Type**	**Description and Source**
8/1/1998	0		NCEI: Drought conditions persisted for six months in a row across the Eastern Panhandle of West Virginia. Persistent high pressure over the Southeast U.S. forced most precipitation producing low-pressure systems to steer north of the region. In addition, record high temperatures baked the region during the first week of the month. Monthly precipitation totals from Jefferson County was 1.3 inches. Average precipitation for the month of December is around 3 inches. Most locations received less than half of their normal precipitation from July through December. A ban on open burning continued through mid-December in Jefferson County due to extreme fire danger.
10/1/1998	0		
11/1/1998	0		
12/1/1998	0		
5/1/1999	0		NCEI: Rainfall from two tropical storms and a handful of low-pressure systems made an impact in the drought that plagued the region since the summer of 1998. By the end of the month, conditions across the Eastern Panhandle were upgraded from an extreme to a moderate drought because rainfall was above average during September. Rainfall totals included 7.9 inches in Jefferson County. Effects of the drought still lingered in the agricultural community. Across the state by the end of the month, 81% of topsoil was reported short or very short of moisture. 32% of apples, 67% of corn, 69% of hay, 77% of pasture land, 30% of soybeans, and 33% of tobacco crops were in poor or very poor condition. By month's end, 28% of farmers were still hauling water for livestock, and 25% of wells were dry or had an extremely low water reserve.
6/1/1999	0		
7/1/1999	0		
8/1/1999	0		
9/1/1999	0		
2002	-	D3 Extreme Drought	U.S. Drought Monitor: Dryness and drought remained unchanged in the Northeast, and expanded or intensified in parts of the mid-Atlantic, Southeast, and the central and southern Appalachians. D3 conditions were extended to cover central North Carolina, the Virginia Blue Ridge and Northern Neck, eastern West Virginia, and the entire Delmarva Peninsula
7/24/2007	0	D2 Severe Drought	Severe drought conditions persisted through much of October in Jefferson County. Rainfall deficits reached a high of 10 inches below normal for the year, but a series of low-pressure systems moving across the Mid Atlantic helped to decrease those deficits by a few inches.
8/1/2007	0		
10/1/2007	0		
2010	-	D3 Extreme Drought	U.S. Drought Monitor: Across the panhandle of West Virginia, northwest Maryland and extreme southwest Pennsylvania, extreme drought (D3) conditions were

Table 4-3: Severe Drought Events in Jefferson County 1997-2023 (NCEI, 2023)			
Date	**Crop Damage ($)**	**Type**	**Description and Source**
			added. Precipitation for the most recent 30 and 90 days measure in at about 40% of normal, while the SPI, NLDAS soil moisture, and stream flows are all below the 5% threshold for indicating extreme drought. Across northern Virginia, abnormal dryness was expanded from the west toward the District of Columbia to reflect the field reports of deciduous trees dropping leaves and fruit earlier than normal due to lack of recent rainfall.

4.4.1.4. Range of Magnitude

Droughts can have varying effects, depending on the month in which they occur, as well as the severity, duration, and location of the event. Even short-term droughts can be devastating, especially in conjunction with extreme temperatures.

Hydrologic drought events result in a reduction of stream flows, reduction of lake/reservoir storage, and a lowering of groundwater levels. These events have adverse impacts on public water supplies for human consumption, rural water supplies for livestock consumption and agricultural operations, water quality, natural soil water or irrigation water for agriculture, soil moisture, conditions conducive to wildfire events, and water for navigation and recreation. The WVEMD Emergency Operations Plan (EOP) uses a combination of five indices to determine the magnitude of a drought (State of West Virginia, 2016). Descriptions of the indices from the EOP are as follows:

a. Palmer Drought Severity Index

The PDSI attempts to measure the duration and intensity of the long- term drought-inducing circulation patterns. Long-term drought is cumulative, so the intensity of drought during the current month is dependent on the current weather patterns plus the cumulative patterns of previous months.

b. Palmer Z Index

The Palmer Z index is a variation of the PDSI that measures short-term drought on a monthly scale.

c. Crop Moisture Index (CMI)

This index uses a meteorological approach to monitor week-to-week crop conditions by evaluating short-term moisture conditions across major crop-producing regions. It is based on the mean temperature and total precipitation for each week within a climate division, as well as the CMI value from the previous week. The CMI responds rapidly to changing conditions, and it is weighted by location and time so that maps can be used to compare moisture conditions at different locations.

d. Standardized Precipitation Index (SPI)

This is a probability index that considers the probability of recording a given amount of precipitation. The probabilities are standardized so that an index of zero indicates the median precipitation amount where half of the historical precipitation amounts are below the median, and half are above the median. The index is negative for drought, and positive for wet conditions. The SPI is computed by the National Centers for Environmental Information (NCEI) for several time scales, ranging from one (1) month to 24 months, to capture both short-term and long-term drought.

e. National Fire Danger Rating System

A broad scale system that incorporates science, technology, and local experience to analyze the various factors of fuels, weather, topography, and risk, in combination, to assess the daily fire potential of an area including the potential for a fire to ignite, spread and require suppression action. Fire danger is usually expressed in numeric or adjective terms.

Precipitation, ground water, stream flow, reservoir levels, PDSI, CMI, SPI, Fire Weather Forecast, and the Fire Danger drought criteria are assessed by the WVEMD each month, the WVEMD then assigns one of four stages of concern as shown in Table 4-4.

Table 4-4: WVEMD EOP Levels of Concern for Drought

Level of Concern	Indices		
	PDSI	CMI	SPI
Normal (Stage I)	Normal levels	Normal levels	Normal levels
Alert (Stage II)	-2.00 to -2.99 Moderate Drought	-1.0 to -1.9 Abnormally Dry	-1.00 to -1.49 Moderately Dry
Conservation (Stage III)	-3.00 to -3.99 Severe Drought	-2.0 to -2.9 Excessively Dry	-1.50 to -1.99 Severely Dry
Emergency (Stage IV)	-4.00 and below Extreme Drought	3.0 or less Severely Dry	-2.00 and less Extremely Dry

I. Alerts are rescinded and drought status returns to normal when the PDSI is above -1, indicating normal or near normal levels.

II. Stage II is reached when the PDSI reads -2.00 to -2.99 and stream, reservoir, and ground water levels are below normal over a several month period and/or the WVEMD Director determines Stage II activities are required. The governor is requested to make a Drought Alert Declaration.

III. Stage III is reached when the PDSI reads -3.00 to -3.99, stream, reservoir, and ground water

levels continue to decline, forecasts predict an extended period of below normal precipitation, and/or the WVEMD Director determines Stage III activities are required. A return to Stage II is allowed when precipitation increase, streams, reservoirs, and ground water levels stop declining, the PDSI reaches to -2.99 or higher, and/or the WVEMD Director determines Stage II activities are sufficient and Stage III is no longer required. and to

IV. Stage IV is reached when the PDSI reads -4.00 and/or the WVEMD Director determines Stage IV activities are required. The governor is requested to make a Drought Emergency Declaration when water supplies will be inadequate to meet projected demand and more extreme measures must be undertaken. This declaration allows state agencies to implement emergency programs and actions according to West Virginia Code and to review the allocation of water supplies in communities that are not adequately responding to their water shortage.

Environmental impacts of drought include:

- Hydrologic effects – lower water levels in reservoirs, lakes, and ponds; reduced streamflow; loss of wetlands; estuarine impacts; groundwater depletion and land subsidence; effects on water quality such as increases in salt concentration and water temperature.
- Damage to animal species – lack of feed and drinking water; disease; loss of biodiversity; migration or concentration; and reduction and degradation of fish and wildlife habitat.
- Damage to plant communities – loss of biodiversity; loss of trees from urban landscapes and wooded conservation areas.
- Increased number and severity of fires.
- Reduced soil quality.
- Air quality effects – dust and pollutants.
- Loss of quality in landscape.
- Loss of water for navigation and recreation.
- Increase in nitrate levels which can have health impacts on pregnant women and children.

4.4.1.5. Vulnerability Assessment

The entire County is exposed and vulnerable to drought. While drought events typically do not impact buildings, infrastructure that provides water may be impacted. This can include loss or severe reduction of water supply, loss of water pressure, or poor water quality. Even though droughts do not directly affect state buildings, there are secondary impacts related to drought that state buildings would be more susceptible to wildfires and tree mortality. Droughts can put more stress on trees, making them more susceptible to pest infestations and other diseases and dying trees. This leads to increased risk of tree limbs falling and damaging buildings and infrastructure and creating more fuel for wildfires.

In relation to wildfire, drought conditions can create more prolonged fires fueled by excessively dry vegetation, along with reduced water supply for firefighting (NOAA - NIDIS n.d.). Risk to life and property is greatest in areas where forested areas adjoin urbanized areas known as the wildland urban interface

(WUI). Therefore, all state buildings and critical facilities in and adjacent to the WUI zone and located in high wildfire risk areas are considered vulnerable to wildfire. Section 3.3.11 (Wildfire) describes the County's vulnerability to the wildfire hazard.

Some of the most significant losses resulting from drought events are typically found in the agricultural sector. Jefferson County is home to agricultural activity, and the local economy could be severely impaired by prolonged drought. The 1999 drought was estimated to have caused more than $200 million in damage to agriculture across the state, and yields were down as low as 50 or 60 percent (WV DEP, 2006; Borger, 1999). State agencies and the WVU Extension Service are valuable resources in reducing drought vulnerability through education and other services to area farmers.

4.4.1.6. People

The entire population of Jefferson County is either directly or indirectly impacted and vulnerable to drought events. For those that rely on surface water (e.g., reservoirs and lakes) for potable water, a decline in surface water flows can be detrimental to the water supply.

Between 1997 and March 2023, droughts in Jefferson County did not directly or indirectly harm anyone physically. Still, severe droughts can have dire consequences on the wellbeing of Jefferson County's residents. For example, Jefferson County's water for utilities is sourced from primarily sourced from groundwater supplies. According to the U.S. Drought Monitor, groundwater levels begin to deplete during D2 level droughts. Therefore, a prolonged drought could interfere with the utility company's ability to provide water to its residents.

4.4.1.7. Structures

While drought events typically do not impact buildings, infrastructure that provides water may be impacted. This can include loss or severe reduction of water supply, loss of water pressure, or poor water quality. Even though droughts do not directly affect state buildings, there are secondary impacts related to drought that state buildings would be more susceptible to wildfires and tree mortality. Both wildfires and tree mortality can damage or destroy state assets, and droughts can increase that risk.

Soil volume and firmness are highly susceptible to the amount of water soil holds. During periods of little to no rain, the soil will likely lose moisture and diminish in size. When soil volume varies greatly, infrastructure and buildings are prone to instability, which could damage structures, particularly if the foundation is not in good condition.

4.4.1.8. Systems

In the 2018 WV Statewide Mitigation Plan, Jefferson County is identified as the locality with the "highest amount of agricultural land per square mile (0.44)" in the state. Additionally, according to the USDA, Jefferson County accounts for 4% of West Virginia's state agriculture sales and is subsequently prone to experience interruptions the economy as the harvesting and production of crops declines as a result of droughts. In 2017, Jefferson County's Market Value of Crops Sold soared over $28.5 million. In addition to

crops, farms in the county also participate in producing livestock and poultry products, which was reported to have a total Market Value of Livestock Sold of $10.884 million.

Long-term water shortages can have a high impact on agribusinesses, hydropower-dependent utilities, and other industries reliant on water for production services; all critical infrastructure in Jefferson County are vulnerable to the effects of a drought. From 2012 to 2017, the number of farms increased by 21% in Jefferson County. In contrast, the average size of a farm decreased by 19%, while the total acreage of farmland decreased by 1%. Also in the same timeframe, total market value of sold products and total farm-related income decreased by 19% and 30% respectively. Similarly, the average farm market value of sold products decreased by 33% and average farm-related income by 36%.

Drought can cause municipalities to enforce water rationing and distribution. It also increases the region's vulnerability to other hazards such as severe weather, extreme heat, and public health emergencies. The special needs population of any county must also be considered during drought conditions.

As with many hazards, determining specific risk and vulnerability areas for drought is difficult. Drought is an "overall" hydrologic condition; that is, if one small area was without precipitation but a nearby area was not, it would be difficult to classify the entire area as "in a drought" due to the eventual seepage of said precipitation to the overall groundwater supply. Consequently, drought is said to affect the entire region evenly.

Table 4-5: Jefferson County Agriculture Market Values (USDA, 2017)

	Market Value of Crops Sold	Market Value of Livestock Sold	Total
Jefferson County	$28,654,000	$10,844,000	$39,498,000

While the economic effects of a drought damaging crops are noticeable immediately, droughts also pose long-term threats to a farm's agricultural capacity. As described by the NCEI drought database narrative, recurring drought events throughout 1998 and 1999 stripped moisture from 81% of West Virginia's topsoil. In the long-run, severe drought conditions could contribute to the already rapidly declining number of farms, as limited harvesting capacity reduces profits.

4.4.1.9. Natural, Historic and Cultural Resources

Environmental losses from drought are associated with damage to plants, animals, wildlife habitat, and air and water quality; forest and range fires; degradation of landscape quality; loss of biodiversity; and soil erosion. Some of the effects are short-term, and conditions quickly return to normal following the end of the drought. Other environmental effects linger for some time or may even become permanent.

As most living beings are highly dependent on water, prolonged periods without it can have extremely detrimental effects on the health and condition of natural resources. Below, a table from the U.S. Drought

Monitor describes the accumulating effects low to severe drought categories. From the lower end, a D0 drought can stunt crop growth and cause wilting, while also depleting surface water levels. On the higher end, a D3 drought can cause extensive crop loss and prompt extended well digging.

Figure 4-3: Drought Severity (Cape Cod Times, 2023)

Category	Examples of historically observed impacts
D0	Crop growth is stunted; planting is delayed
	Fire danger is elevated; spring fire season starts early
	Lawns brown early; gardens begin to wilt
	Surface water levels decline
D1	Honey production declines
	Irrigation use increases; hay and grain yields are lower than normal
	Trees and landscaping are stressed; fish are stressed
	Voluntary water conservation is requested; reservoir and lake levels are below normal capacity
	Wildfires and ground fires increase
D2	Fish kills occur; wildlife move to farms for food
	Golf courses conserve water
	Producers begin feeding cattle; hay prices are high
	Specialty crops are impacted in both yield and fruit size
	Trees are brittle and susceptible to insects
	Warnings are issued on outdoor burns; air quality is poor
	Water quality is poor; groundwater is declining; irrigation ponds are dry; outdoor water restrictions are implemented
D3	Crop loss is widespread; Christmas tree farms are stressed; dairy farmers are struggling financially
	Extremely reduced flow to ceased flow of water is observed; river temperatures are warm; wells are running dry; people are digging more and deeper wells
	Water recreation and hunting are modified; wildlife disease outbreak is observed
	Well drillers and bulk water haulers see increased business

4.4.1.10. Community Activities

During D2 droughts and above, it is probable that the air and water quality of the region will considerably worsen. As a result, outdoor activities are at risk of cancellation. Businesses in Harpers Ferry, a town and hub for numerous outdoor and water recreation activities in Jefferson County, also face risk of temporarily pausing operations. Below are community activities that occur throughout the year or annually.

- Jefferson County Fair – July and August at Jefferson County Fairgrounds and weekly farm markets
- Historical Walking Tours of Harpers Ferry, WV – Available All Year (Note four (4) of the National Register Areas within Harpers Ferry are located in the 1-percent-annual chance floodplain.)
- Hollywood Casino Horse Races – Reoccurring – Located in Charles Town
- September 22 - 24 - Mountain Heritage Arts & Craft Festival at Jefferson County Fairgrounds
- October 7 - Freedoms Run (Note: held in in Harpers Ferry & Shepherdstown.)

4.4.2. Earthquake

An earthquake is the motion or trembling of the ground produced by sudden displacement of rock, usually within the upper 10-20 miles of the Earth's crust. Earthquakes result from crustal strain, volcanism, landslides, or the collapse of underground caverns. They can also result from human activity like mine blasts and nuclear experiments. Future earthquakes are most likely to occur in the same general regions that have had earthquakes previously. Earthquakes can cause damage to buildings and other rigid superstructures, depending on factors like magnitude, distance of local areas to the epicenter, and local geologic conditions. It remains incredibly difficult to predict when and where an earthquake will occur in the northeast U.S. and West Virginia.

Earthquakes move or shake the earth in three different directions depending on the plate movements: convergent, divergent, and transform generating primary and secondary waves. There are three common ways to measure an earthquake:

- Richter Scale: The Richter scale measures the scale and severity of an earthquake; the magnitude of an earthquake can range between 0 and 10. The effects of an earthquake can extend far beyond the site of its occurrence.
- Modified Mercalli Scale: The modified Mercalli scale measures earthquakes based on their intensity on the surface. This scale uses Roman numerals I through XII to denote detection and damage levels associated with an earthquake.
- Peak Ground Acceleration (PGA): PGA is "the maximum ground acceleration that occurred during earthquake shaking at a location. PGA is equal to the amplitude of the largest absolute acceleration recorded on an accelerogram at a site during a particular earthquake" (Douglas, 2003).

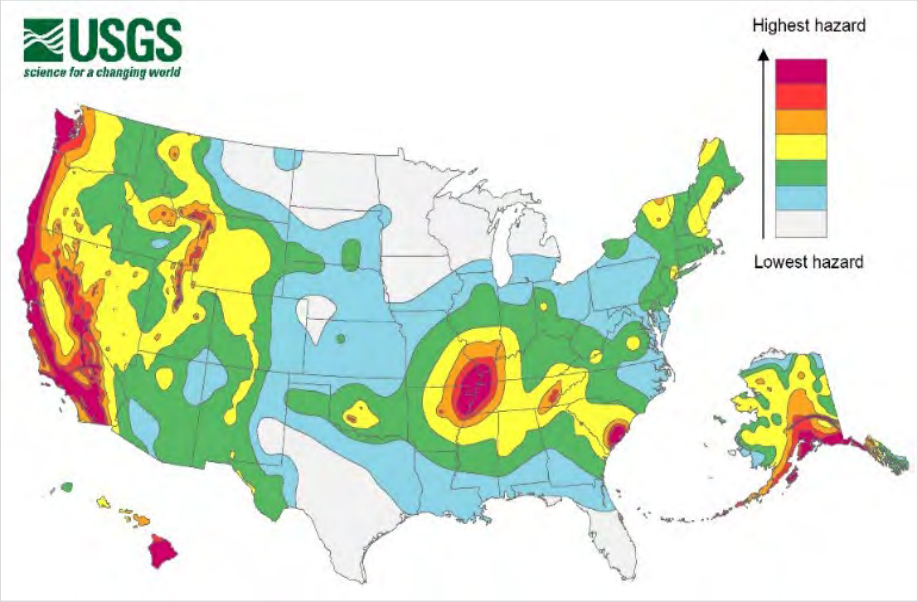
4.4.2.1. Location and Extent

The U.S. has areas that are prone to earthquakes; the coasts of California, Oregon and Washington are more vulnerable to seismic activity due to the presence of the Ballenas, Brothers, and the San Andreas Faults on the west coast. Also of note is the New Madrid Seismic Zone located in Arkansas, Missouri, and Tennessee. On the east coast, there is the Eastern Tennessee Seismic Zone that stretches from Alabama to Virginia.

The nearest area of seismic activity is the southeast and south-central United States region, which covers a large area of relatively diffuse, low- rate seismicity. Principle areas of activity include the New Madrid Seismic Zone of the central Mississippi Valley and the Southern Appalachian Seismic Zone, extending from Virginia to Alabama; Figure 4-4. This map shows the majority of the State of West Virginia as low risk; this includes Jefferson County. The southernmost part of the state has only a slightly higher risk of earthquake hazards.

Figure 4-4: Simplified 2018 USGS Hazard Map

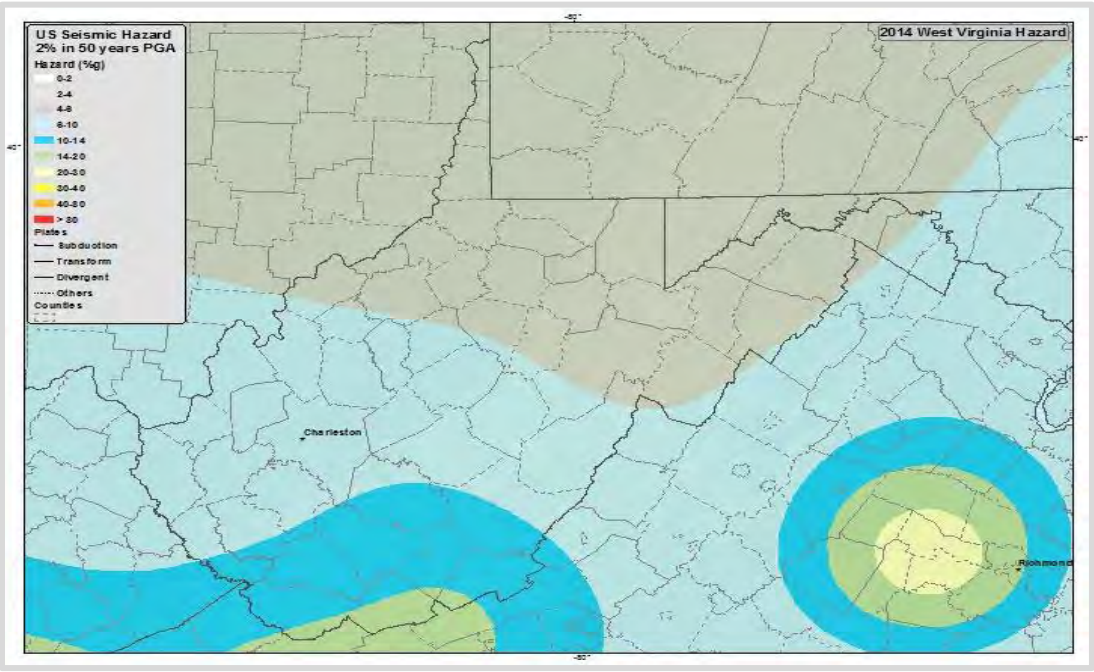
2% Chance of Exceedance in 50 Years Scaled in Peak Ground Acceleration (PGA) (USGS, 2018)



When events occur, they impact relatively small areas. According to a region-specific seismic hazard map, as seen in Figure 4-5, Jefferson County faces the possibility of marginally more severe earthquake with a 2 percent chance of exceeding a Peak Ground Acceleration (PGA) of 8-10 %g in 50 years (USGS, 2018).

Figure 4-5: WV 2014 USGS Hazard Map

2 percent Chance of Exceedance in 50 Years (most recent figure available) (USGS, 2018)

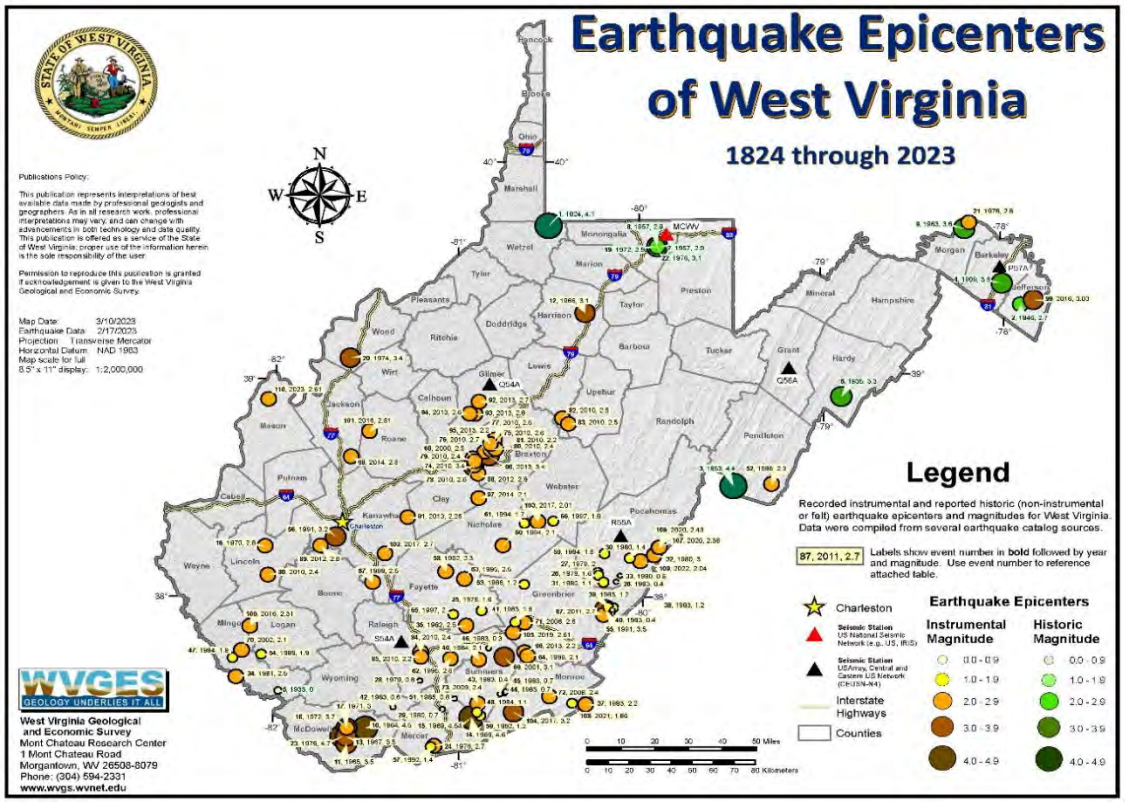


4.4.2.2. Past Occurrence

According to the U.S. Geological Society, based on historical trends, the frequency of an earthquake occurrence inversely relates to its magnitude. There are an estimated 1.3 million earthquakes every year with a magnitude between 2.0 and 2.9 while there is, on average, one magnitude 8.0 or higher earthquake annually.

In 2016, Jefferson County experienced an earthquake of 3.0 magnitude, but according to the State of West Virginia 2023 Hazard Mitigation Plan, the intensity measured a V, which is higher than the expected intensity for a 3.0 magnitude earthquake. The table below lists the epicenters of earthquakes within an 80-mile radius of Jefferson County. Since 2000, there have been five epicenters although the community has felt others originating from further away. The location of these earthquakes can be seen in Figure 4-6, as well as other historical earthquake locations throughout West Virginia.

Figure 4-6: WV Geological and Economic Survey Earthquake Epicenters (WVGES, 2023)



The USGS has an earthquake hazards program in which they ask, 'did you feel it?' and anyone can record their answers. The USGS then takes that data and creates a map for every year. Since 2000, the maps show that there have been seven earthquakes that people have felt in 2003, 2010, 2011, 2012, 2014, 2016, and 2017. As data shows, there have been more earthquakes felt in the last six years than since 2000, which indicates that they are becoming a more common occurrence.

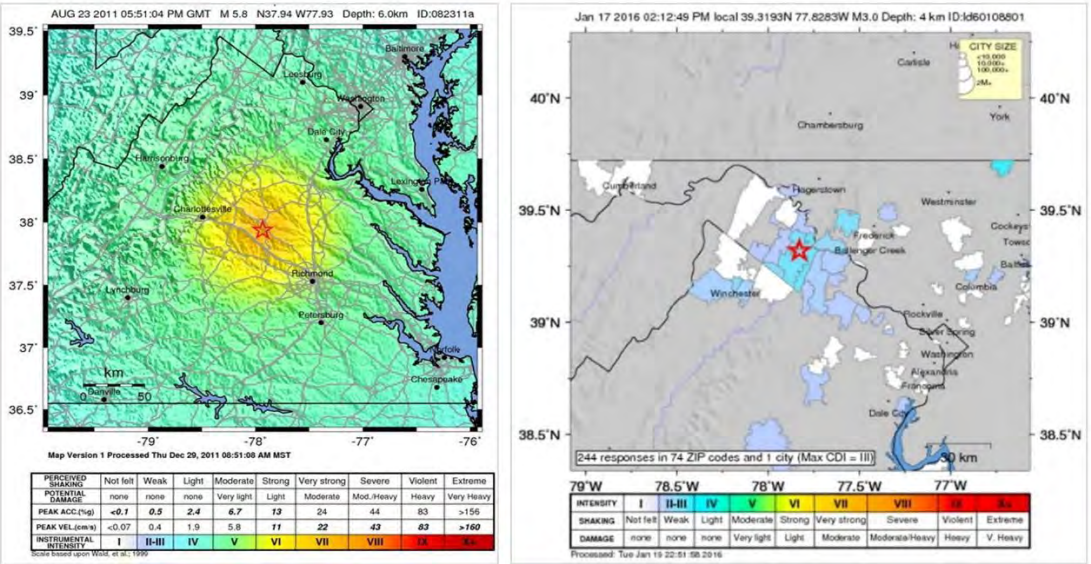
4.4.2.3. August 23, 2011

The most high-profile earthquake event to occur near the Potomac Highlands of West Virginia occurred in August 2011. A magnitude (Richter Scale) 5.7 earthquake centered in Louisa, Virginia (a little over 100 miles from Jefferson County) shook structures throughout West Virginia, Pennsylvania, Virginia, Maryland, and New York. Several aftershocks, ranging up to 4.5 in magnitude, occurred after the main tremor. Damage to historic structures like the National Cathedral and the Washington Monument were noted in Washington D.C. Evacuations occurred in D.C. as well as New York City because the general population was not accustomed to experiencing an earthquake of that magnitude. However, the intensity of the earthquake was quite low outside of central Virginia, as seen in Figure 4-7. No deaths and only minor injuries were reported, and minor damage to buildings was widespread. In Martinsburg, several government buildings were evacuated, and multiple citizens reported feeling their homes shaking violently enough to rattle picture frames off the walls. In Charleston, the Kanawha County Courthouse, the West Virginia State Capitol campus, and several other downtown buildings were evacuated. In Philippi, part of a chimney collapsed at the Barbour County courthouse. No damages were reported in Jefferson County.

4.4.2.4. January 17, 2016

More recently, in January 2016, an earthquake shook the West Virginia – Virginia state border. The earthquake happened at 2:12 p.m., and its epicenter was about two miles south-southeast of Bolivar, which is next to Harpers Ferry. The magnitude was 3.0 according to the Richter Scale and the intensity was minimal, but the earthquake was clearly felt up to 28 miles away in Martinsburg (USGS, 2016). There were no reports of damage or injuries. That day, 51 people in Charles Town reported feeling it, and 38 in the Bolivar and Harpers Ferry areas reported experiencing it. According to USGS records of earthquakes from 1900-Present, the 2016 earthquake is the most recent in the area of this scale (USGS, 2016).

Figure 4-7: USGS ShakeMaps for August 2011 and January 2016 Earthquakes (USGS, 2011 & 2016)

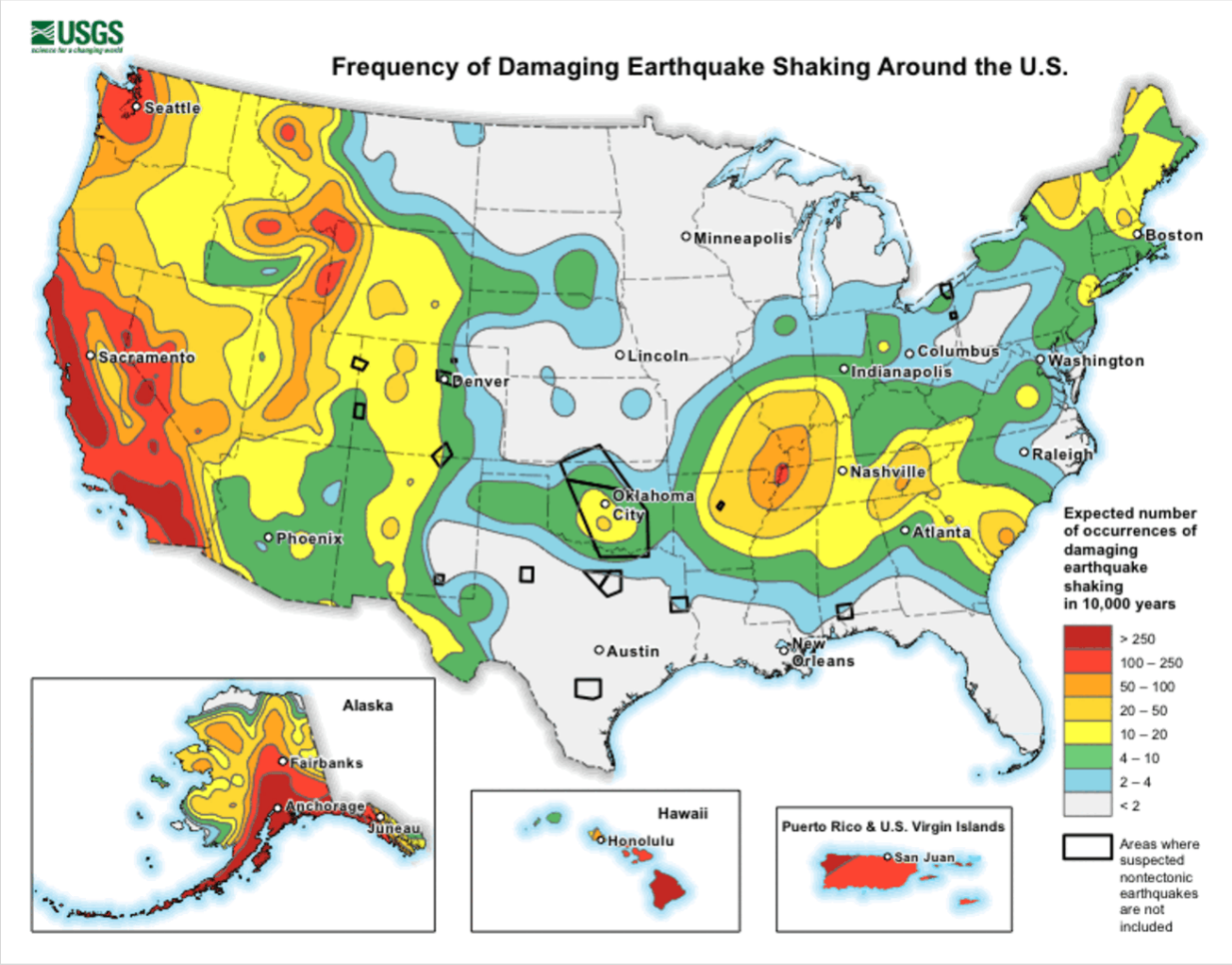


4.4.2.5. Future Occurrence

As aforementioned, Jefferson County has a 2 percent chance of exceeding a Peak Ground Acceleration (PGA) of 8-10 %g in 50 years according to Figure 4-5. The probability of an earthquake occurring in Jefferson County each year is very low, and the probability of a destructive earthquake is highly improbable. Historical records indicate that the future likelihood of an earthquake is unlikely as defined by the Risk Factor Methodology probability criteria (see Table 4-6).

Figure 4-8 depicts how many times earthquakes can cause damaging earthquakes (MMI VI or greater) in 10,000 years. The State of West Virginia 2023 Hazard Mitigation Plan states earthquakes of any magnitude can happen at any time in West Virginia. The figure shows that the northern portion of the state can expect between 2 and 4 damaging earthquakes in 10,000 years.

Figure 4-8: Frequency of Damaging Earthquake Shaking Around the United States, (USGS, 2023)



As of 2021, six seismic monitoring stations exist across West Virginia. These stations collect data about any future earthquake events and may help West Virginians further understand their earthquake risk.

4.4.2.6. Range of Magnitude

The map in Figure 4-4 is measured using Peak Ground Acceleration (PGA). This is defined as the maximum acceleration experienced by an area during the motion of an earthquake. This unit of measure is often used because building codes tend to regulate how much horizontal force a building should be able to endure during an earthquake, and force is directly proportional to acceleration. This is measured in %g, referring to the quotient of the PGA divided by the acceleration due to gravity (known as g, which is a constant of 9.80665 m/sec2) expressed as a percentage. A reference point for this unit of measure is 10%g, which the USGS believes approximates the maximum threshold of damage for pre-1965 or non-earthquake resistant buildings and roughly equates to VI to VII on the Modified Mercalli Intensity Scale, which is defined below (USGS, 2016).

The impact of an earthquake event is often measured in terms of earthquake intensity, which is measured using the Modified Mercalli Intensity (MMI) Scale, shown in Table 4-6. This scale has a measure of severity from I to XII, and relates to another commonly used scale, the Richter Scale (USGS, 2016).

Table 4-6: Modified Mercalli Intensity Scale with Associated Impacts

Scale	Intensity	Description	Corresponding Richter Scale Magnitude
I	Instrumental	Usually detected only on seismographs.	<4.2
II	Feeble	Felt only by a few persons at rest, especially on upper floors of buildings.	
III	Slight	Felt quite noticeably indoors, especially on upper floors. Most people do not recognize it as an earthquake (i.e. a truck rumbling).	
IV	Moderate	Can be felt by people walking; dishes, windows, and doors are disturbed.	
V	Slightly Strong	Sleepers are awoken; unstable objects are overturned.	<4.8
VI	Strong	Trees sway; suspended objects swing; objects fall off shelves; damage is slight.	<5.4
VII	Very Strong	Damage is negligible in buildings of good design and construction, slight to moderate in well-built ordinary structures, and considerable in poorly built or badly designed structures; some chimneys are broken.	<6.1
VIII	Destructive	Damage is slight in specially designed structures; considerable in ordinary, substantial buildings. Moving cars become uncontrollable; masonry fractures, poorly constructed buildings damaged.	<6.9

Table 4-6: Modified Mercalli Intensity Scale with Associated Impacts			
Scale	**Intensity**	**Description**	**Corresponding Richter Scale Magnitude**
IX	**Ruinous**	Some houses collapse, ground cracks, pipes break open; damage is considerable in specially designed structures; buildings are shifted off foundations.	
X	**Disastrous**	Some well-built wooden structures are destroyed; most masonry and frame structures are destroyed along with foundations. Ground cracks profusely; liquefaction and landslides widespread.	<7.3
XI	**Very Disastrous**	Most buildings and bridges collapse, roads, railways, pipes, and cables destroyed.	<8.1
XII	**Catastrophic**	Total destruction; trees fall; lines of sight and level are distorted; ground rises and falls in waves; objects are thrown upward into the air.	>8.1

Source: USGS - The Modified Mercalli Intensity Scale

Earthquake magnitudes are often measured using the Richter Scale, an open-ended logarithmic scale that describes the energy release of an earthquake. Table 4-7 summarizes Richter Scale magnitudes as they relate to the spatial extent of impacted areas. The Richter Scale does not give any indication of the impact or damage of an earthquake, although it can be inferred that higher magnitude events cause more damage. Instead, the Modified Mercalli Intensity Scale is used to measure earthquake intensity (USGS, 2016).

Table 4-7: Richter Scale Magnitudes and Associated Earthquake Size Effects.	
Richter Magnitudes	Earthquake Effects
Less than 3.5	Generally, not felt but recorded.
3.5-5.4	Often felt, but rarely causes damage.
Under 6.0	At most, slight damage to well-designed buildings; can cause major damage to poorly constructed buildings over small regions.
6.1-6.9	Can be destructive up to about 100 kilometers from epicenter.
7.0-7.9	Major earthquake; can cause serious damage over large areas.
8.0 or greater	Great earthquake; can cause serious damage in areas several hundred kilometers across.

Source: USGS Richter Scale

The worst earthquake recorded in West Virginia according to records maintained by The West Virginia Geological and Economic Survey was a magnitude 4.6 (or VI MMI) earthquake centered in Mercer County, WV, a county along the southern border of the state in 1969. Therefore, a worst-case scenario for this hazard would likely be if an earthquake of similar magnitude occurred in the Eastern Panhandle region or near the border of adjacent counties, which may cause mild damage in populated areas. Structural damage would not be expected in this scenario for most buildings, but blighted structures or those in a state of disrepair might experience further structural damage (West Virginia Geological and Economic Survey, 2016).

Environmental impacts of earthquakes can be numerous, widespread, and devastating, particularly if indirect impacts like economic impacts are considered. Earthquakes are known for causing induced tsunamis, flooding, landslides, and avalanches; poor water quality; damage to vegetation; and breakage in sewage or toxic material containments. However, because of their geographic location, these impacts are extremely unlikely to occur in Jefferson County (USGS, 2016).

4.4.2.7. Vulnerability Assessment

The somewhat random historical occurrences of earthquakes would indicate that all structures throughout Jefferson County to be equally at risk from earthquakes. The severity of those earthquakes, though, is expected to be very low. In a mild earthquake of the magnitude typically experienced in West Virginia, no structural damage is anticipated. In other cases, damages are expected to be limited, and examples of anticipated damages are broken dishes and windows and toppled file cabinets.

However, for earthquakes, the available history covers a period of less than 300 years, which is a relatively short period of time for an examination of earthquakes. Large earthquakes may only affect a location every several centuries or millennia. Environmental impacts of earthquakes can be numerous, widespread, and devastating, particularly if indirect impacts are considered. Some secondary hazards caused by earthquakes may include fire, hazardous material release, landslides, flash flooding, avalanches, tsunamis, and dam failure. These secondary events could also result in disruptions to natural ecosystems, poor water quality, damage to vegetation, and the release of toxic materials and sewage. Impacts to infrastructure could include train derailments, pipe failures, and utility interruptions. A very large earthquake affecting the counties might cause structural damage in dilapidated structures or structures that do not meet current building codes. Thus, the impact of an earthquake might range from negligible to catastrophic. Based on historical data for the counties, damage is likely to be minimal.

FEMA's National Risk Index indicates that Jefferson County's risk index is very low compared to other counties to the United States, in fact 45% of U.S. counties have a lower risk index than Jefferson County. The risk index rating for neighboring jurisdictions is relatively low for Berkeley County (West Virginia) and Loudoun County (Virginia), while Clarke County (Virginia) is very low.

The hazard type Risk Index score measures the relative risk of a community for a specific hazard type by comparing its hazard type Risk Index value with other communities at the same level. These scores are calculated using data for only a single hazard type and reflect a community's Expected Annual Loss (EAL)

value, community risk factors, and the adjustment factor used to calculate the risk value. The composite Hazard Type Risk Index score for earthquake in Jefferson County is detailed in Table 4-8.

Table 4-8: Jefferson County Earthquake Hazard Type Risk Index Score

Hazard Type	Expected Annual Loss Value	Social Vulnerability	Community Resilience	Community Risk Factor	Risk Value	Score
Earthquake	$121,715	Very Low	Relatively Moderate	1.04	$135,772	47.8

Source: National Risk Index – Jefferson County, West Virginia

Jefferson County as an expected annual loss value of $121,715 from an earthquake impact, is rated "very low" for social vulnerability, and is "relatively moderate" in terms of community resilience.

4.4.2.8. People

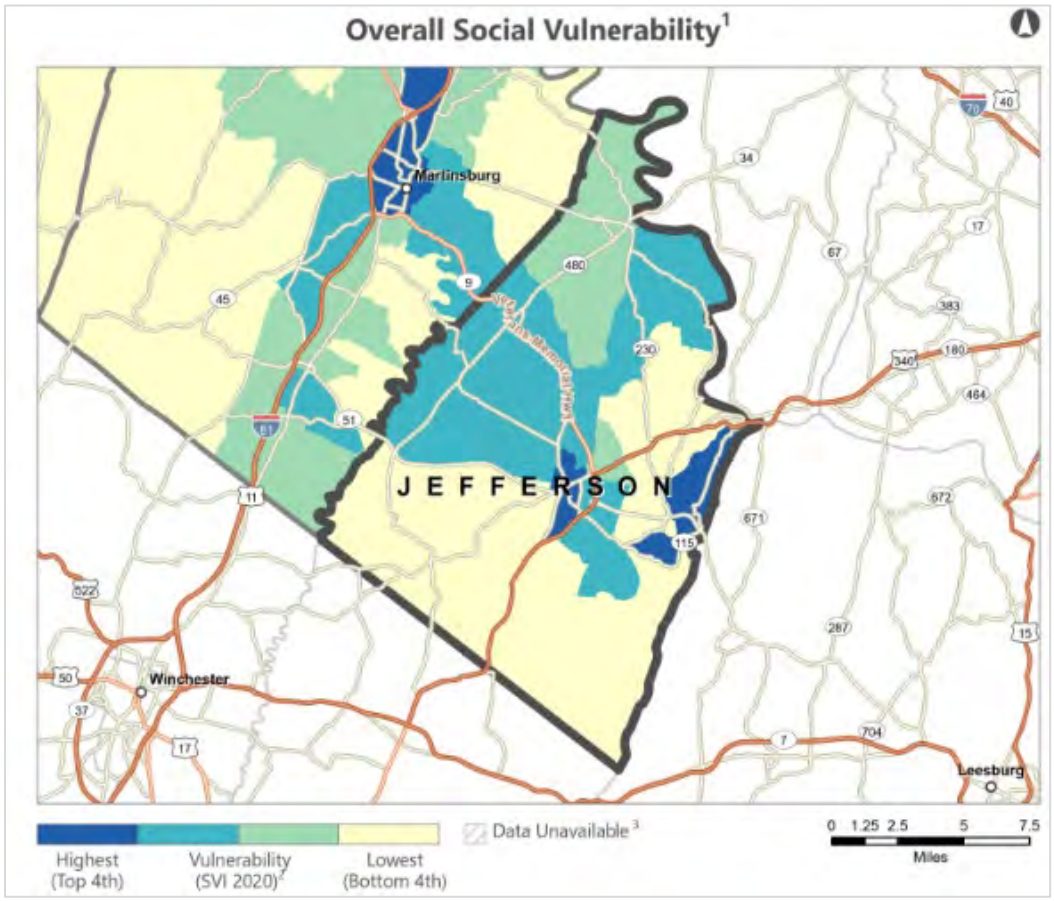
Earthquakes can affect people and structures alike, although older structures may be more susceptible to cracks and damage. "With most earthquakes, trauma caused by the collapse of buildings is the cause of most deaths and injuries. However, a surprisingly large number of patients require acute care for non-surgical problems such as acute myocardial infraction, exacerbation of chronic diseases such as diabetes or hypertension, anxiety and other mental health problems, respiratory disease from exposure to dust and asbestos fibers from rubble, and near drowning because of flooding from broken dams. As with most natural disasters, the risk of secondary epidemics is minimal, and only mas vaccination campaigns based on results of epidemiological surveillance are appropriate following earthquakes" (Noji, 1999).

The HAZUS-MH program from the Federal Emergency Management Agency analyzes the effects of a potential earthquake striking Jefferson County. The scenario depicts a 5.0 earthquake (the lowest possible magnitude to use in the program) located at the epicenter of the latest 2016 earthquake, just northeast of Ranson. According to the Hazus results, estimates for the county are as follows:

- 118 injuries that require medical attention, but not hospitalization,
- 28 injuries that require hospitalization, but are not life-threatening,
- 5 injuries that require hospitalization that can become life-threatening if not promptly treated, and
- 7 deaths.

In terms of social vulnerability, the National Risk Index (NRI) determines social group susceptibility to the adverse impacts of natural hazards when compared to the rest of the U.S. This is measured using the Social Vulnerability Index (SVI) published by the Centers for Disease Control and Prevention (CDC). The SVI considers well-established indicators of social vulnerability, including socioeconomic status, household characteristics, racial & ethnic minority status, and housing type & transportation.

Figure 4-9: Social Vulnerability Index (CDC, 2020)



According to the NRI, people, including underserved communities and socially vulnerable populations, in Jefferson County have a very low susceptibility to the adverse impacts of natural hazards in comparison to the rest of the U.S. Related to neighboring jurisdictions, Loudoun County (Virginia) social vulnerability is very low as well, while Berkley County is relatively low. The likelihood of an earthquake causing major damage or injuries in Jefferson County is low, however, the area in and around Charles Town and south of Harpers Ferry, which contains socially vulnerable populations, Figure 4-9 should be considered for preparedness and response activities.

4.4.2.9. Structures

Considering that there is no history of damage in the region due to earthquakes, damages are estimated to be limited to the more dilapidated structures and structures with unreinforced masonry. Therefore, structures identified as potentially at risk of damage due to an earthquake are older structures. In consideration of new structures, modern building codes and the low expected magnitude of earthquakes in the county, limited property damage is anticipated.

The Hazus analysis data in Table 4-9 and Table 4-10 have not been recently updated, however due to the low probability of an earthquake event and damages resulting from the magnitude of an earthquake likely

to be experienced by Jefferson County. Based on past earthquake hazard occurrences specific to Jefferson County, the previous Hazus analysis is sufficient for planning purposes. Keep in mind that the Hazus analysis used a probabilistic earthquake scenario, which was not a past occurrence.

Building damages by occupancy type and the building-related economic loss estimates results from FEMA's Hazus program for the earthquake scenario, a 5.0 earthquake with the epicenter just northeast of Ranson, are described in the following tables. Note, historical occurrences for Jefferson County indicates that two (2) earthquakes were felt by people in the area, however, no damages or deaths were reported.

Table 4-9: Jefferson County Expected Building Damage By Occupancy (Hazus)

	None		Slight		Moderate		Extensive		Complete	
	Count	%	Count	%	Count	%	Count	%	Count	%
Agriculture	25	0.30	22	0.41	25	0.62	10	0.71	3	0.79
Commercial	207	2.43	162	3.04	222	5.46	108	7.34	32	8.43
Education	9	0.10	6	0.12	9	0.22	4	0.28	1	0.32
Government	11	0.12	8	0.15	12	0.30	6	0.43	2	0.50
Industrial	68	0.80	51	0.95	79	1.95	42	2.84	13	3.27
Other Residential	1,655	19.46	1,173	21.92	1,269	31.29	602	41.00	138	35.93
Religion	31	0.37	20	0.37	19	0.47	9	0.58	2	0.61
Single Family	6,503	76.43	3,908	73.05	2,424	59.72	688	46.81	192	50.15
TOTAL	**8,509**		**5,350**		**4,060**		**1,469**		**383**	

Source: 2018 Jefferson County Hazard Mitigation Plan

Table 4-10: Jefferson County Hazus Building-Related Economic Loss Estimates (Millions Of Dollars)

Category	Area	Single Family	Other Residential	Commercial	Industrial	Others	Total
Income Losses	Wage	0.00	3.53	13.25	0.68	1.27	**18.74**
	Capital Related	0.00	1.49	11.89	0.40	0.21	**14.00**
	Rental	6.43	4.67	5.16	0.25	0.58	**17.10**
	Relocation	23.77	4.14	8.40	1.30	3.65	**41.26**
	Subtotal	30.20	13.83	38.71	2.64	5.71	**91.09**
Capital Stock Losses	Structural	36.88	7.08	9.14	3.16	3.72	**59.98**
	Non-Structural	126.40	26.92	27.66	10.10	9.61	**200.70**
	Content	46.66	6.78	14.58	6.86	5.42	**80.30**
	Inventory	0.00	0.00	0.36	1.57	0.13	**2.06**
	Subtotal	209.94	40.79	51.74	21.70	18.88	**343.04**
TOTAL		**240.14**	**54.61**	**90.45**	**24.33**	**24.59**	**434.13**

Source: 2018 Jefferson County Hazard Mitigation Plan

In addition to overall building losses, essential facilities may suffer some damage based on the probabilistic earthquake scenario, not past occurrences.

4.4.2.10. Systems

An earthquake may precipitate a major technologic disaster by damaging or destroying nuclear power stations, hospitals with dangerous biologic products, hydrocarbon storage areas, and hazardous chemical plants. Hazus generated the following results for utility systems in Jefferson County.

- Transportation and Utility Lifeline Damage: two bridges and one light rail facility will have at least moderate damage; economic loss estimate is $4.8 million.
- Utility System Facility Damage: one potable water, eleven wastewater, and three communications facilities will have at least moderate damage; economic loss estimate is $203.10 million.
- Utility System Pipeline Damage: there will be 211 potable water, 106 wastewater, and 36 natural gas pipeline leaks, and 53 potable water, 26 wastewater, and nine natural gas pipeline breaks.

4.4.2.11. Historic Resources & Community Activities

Historic buildings are especially vulnerable considering the structures were not designed and constructed to absorb the swaying ground motions caused by earthquakes. Therefore, major structural damage, or outright collapse, can result. However, given the extremely low risk factor and associated impacts for Jefferson County, the likelihood of damages resulting from an earthquake are very low. This is also true for impacts from an earthquake to community events. While a slight disruption to events may occur as a result of an earthquake in the region, long term disruptions or event cancelations are not anticipated from this hazard, based on past occurrences. Below are community activities that occur throughout the year or annually.

- Jefferson County Fair – July and August at Jefferson County Fairgrounds and weekly farm markets
- Historical Walking Tours of Harpers Ferry, WV – Available All Year (Note four (4) of the National Register Areas within Harpers Ferry are located in the 1-percent-annual chance floodplain.)
- Hollywood Casino Horse Races – Reoccurring – Located in Charles Town
- September 22 - 24 - Mountain Heritage Arts & Craft Festival at Jefferson County Fairgrounds
- October 7 - Freedoms Run (Note: held in in Harpers Ferry & Shepherdstown.)

4.4.3. Extreme Temperatures

Extreme temperature includes both hot and cold temperatures. Extreme cold temperatures drop well below what is considered normal for an area during the winter months and often accompany winter storm events. Combined with increases in wind speed, such temperatures in West Virginia can be life threatening to those exposed for extended periods of time. Extreme temperatures can be described as temperatures that are 10°F or more above or below the average temperature for a region during summer and winter months.

The National Oceanic and Atmospheric Administration (NOAA) can generate reports of monthly "normals" at its different stations. The data chosen for the region is from the Eastern WV Regional Airport (the closest to Jefferson County in West Virginia).

4.4.3.1. Heat

Temperatures vary widely over the course of a year, but each season has average temperature ranges associated with them. Summer and winter have, generally, the highest and lowest range of temperatures, respectively. When the temperature is consistently greater than the normal in summer, meteorologists refer to it as a heat wave, which means, "temperatures of ten or more degrees above the average high temperature persist across the geographic region for several days or weeks" (Haddow, Bullock, & Coppola, 2014, p.51). These conditions can be a contributor to drought conditions when combined with a lack of rainfall. Excessive heat has a history of being deadly. In the United States, "more than 1,500 die from exposure to excessive heat" (Haddow, Bullock, & Coppola, 2014, p.52). These conditions can also have serious impacts on crops, causing below average harvests. Repeated years of extreme temperatures can easily cause significant economic impacts on agricultural industries. The National Centers for Environmental Information (NCEI) tracks two types of extreme heat temperatures.

- **Heat:** A period of heat resulting from the combination of high temperatures (above normal) and relative humidity. A heat event occurs whenever heat index values meet or exceed locally/regionally established advisory thresholds, or a directly related fatality occurs due to the heat event.
- **Excessive Heat:** Excessive heat results from a combination of high temperatures (well above normal) and high humidity. An excessive heat event occurs when heat index values meet or exceed locally/regionally established excessive heat warning thresholds, on a widespread or localized basis (National Weather Service Instruction 10-1605, 2007).

4.4.3.2. Cold

While there is no widely accepted definition of extremely cold temperatures, periods of colder than average conditions can cause an array of negative consequences depending on their duration (Haddow, Bullock, & Coppola, 2014, p.51). Extremely cold temperatures are immediately dangerous to both humans and livestock by causing frostbite and hypothermia, which can lead to permanent injury and death. The

chart on the next page shows how quickly frostbite can occur at different temperatures and wind speeds. In unprotected structures cold temperatures can freeze water pipes causing them to burst upon thawing, leading to significant damage. Cold snaps during typically warmer weather during the growing season can damage and destroy some crops, depending on their sensitivity to temperature. The Jefferson County Hazard Mitigation Plan Risk Assessment NCEI tracks two types of extreme cold temperatures.

- **Cold/Wind Chill:** Period of low temperatures or wind chill temperatures reaching or exceeding locally/regionally defined advisory (typical value is -18° F or colder) conditions, on a widespread or localized basis. There can be situations where advisory criteria are not met, but the combination of seasonably cold temperatures and low wind chill values (roughly 15° F below normal) may result in a fatality.
- **Extreme Cold/Wind Chill:** A period of extremely low temperatures or wind chill temperatures reaching or exceeding locally/regionally defined warning criteria (typical value around -35° F or colder), on a widespread or localized basis. Normally these conditions should cause significant human and/or economic impact. The polar vortex is a large area of low pressure and cold air surrounding both of the Earth's poles. It ALWAYS exists near the poles, but weakens in summer and strengthens in winter. The term "vortex" refers to the counter-clockwise flow of air that helps keep the colder air near the Poles. Many times during winter in the northern hemisphere, the polar vortex will expand, sending cold air southward with the jet stream. This occurs fairly regularly during wintertime and is often associated with large outbreaks of Arctic air in the United States.

In addition to the extreme cold temperature events listed above, NCEI tracks "Frost/Freeze" conditions.

- **Frost/Freeze:** The threshold for these conditions can be met when the temperature falls below 36°F but impact is further exacerbated the more the temperature drops. When the temperature hits below 32°F, it is more likely that a larger portion of the environment will be affected (NWS, 2022). When the temperature falls below 28°F, the event can be classified as a "hard freeze" because of its severity (NWS, 2022). Jefferson County typically experiences its first range of Freeze events of the year sometime between October and mid-November. Because temperatures commonly drop below the thresholds for Frost/Freeze in the winter, weather warnings are only issued for these events from May 1 to October 20 (NWS, 2022).

4.4.3.3. Location and Extent

All of Jefferson County is subject to extreme temperatures in the summer and winter seasons. Urban environments are more susceptible to extreme heat as they tend to retain the heat well into the night, leaving little opportunity for dwellings to cool. Demographics also are a consideration, as large populations of elderly or poor represent those most vulnerable to temperature extremes.

Table 4-11 shows monthly mean maximum and minimum temperatures between 1981 and 2010 and the average number of days where temperatures exceed 90°F or drop below 32°F. Elevation, topography, and surrounding development may account for much of the difference between these two locations. The

Eastern Panhandle reaches its highest maximum mean daily temperature in July. Eastern WV Regional Airport climbs to a mean daily maximum of 85.8 °F in July. The region reaches its lowest temperatures in January, with Eastern WV Regional Airport (Martinsburg Regional Airport) dropping to a mean daily minimum of 22.3°F (NCEI NOAA, 2021).

Table 4-11: Summary of Monthly Extreme Temperatures (°F), 1981-2010
Martinsburg Eastern WV Regional Airport (NCEI NOAA, 2021)

	Mean		Mean Number of Days	
Month	**Daily Max**	**Daily Min**	**Max >= 90**	**Min <= 32**
Jan	39.5	22.3	0.0	25.7
Feb	43.2	24.4	0.0	22.7
March	52.6	31.4	0.0	16.5
April	64.0	40.8	0.1	4.5
May	72.7	49.6	0.8	0.2
June	81.7	58.9	3.6	0.0
July	85.8	63.7	7.5	0.0
Aug	83.9	61.8	5.6	0.0
Sept	76.7	53.9	1.5	0.0
Oct	65.4	42.3	0.0	3.7
Nov	54.3	34.1	0.0	12.1
Dec	42.8	25.5	0.0	23.9
Summary	63.6	42.4	19.1	109.3

Table 4-12: Summary of Monthly Extreme Temperatures (°F), 1980-2023
Martinsburg Eastern WV Regional Airport (NCEI NOAA, 2021)

Month	Daily Max	Daily Min
Jan	75 in 1997	-18 in 1994
Feb	83 in 2018	-5 in 1996
March	88 in 2018	-3 in 2014
April	93 in 2002	19 in 2013
May	96 in 1996	30 in 2005
June	102 in 2012	39 in 1993
July	107 in 1988	48 in 2010
Aug	103 in 1991	40 in 1986
Sept	100 in 1998	32 in 2020
Oct	92 in 2019	22 in 1992
Nov	81 in 1982	13 in 2014
Dec	78 in 2001	-12 in 1983

Given Martinsburg's proximity to Jefferson County, it is beneficial to use its data because the National Weather Service does not provide information for specific towns or cities in the county. From 1980 to 2023, Martinsburg experienced numerous abnormal weather events, as portrayed in Figure 4-11. One of the most notable discrepancies between the monthly daily maximums and minimums happened just four years apart. In March 2018, the highest recorded value was 88 degrees while in 2014 the lowest recorded value was -3.

4.4.3.4. Past Occurrence

The region has often encountered severe and dangerous temperatures in the past. A map of minimum temperatures in Jefferson County can be seen in Figure 4-10, and a map of maximum temperatures can be seen in Figure 4-11 for the years 1981 to 2010. This data was the most current geospatial temperature data available for analysis (NOAA, 2021). Previous temperature extremes impacting Jefferson County can be as seen in Table 4-12. Historically, the Eastern WV Regional Airport experienced a WV record of 112^{o}F on July 11, 1936. According to the NWS Heat Index, a temperature of that magnitude presents an extreme danger. On the other end of the spectrum, on January 21, 1994, Eastern WV Regional Airport reached 18^{o}F (The Weather Channel, 2016). With wind chill, these cold temperatures could quickly cause frostbite on exposed skin.

Figure 4-10: Jefferson County Average Minimum Temperatures 1991-2020

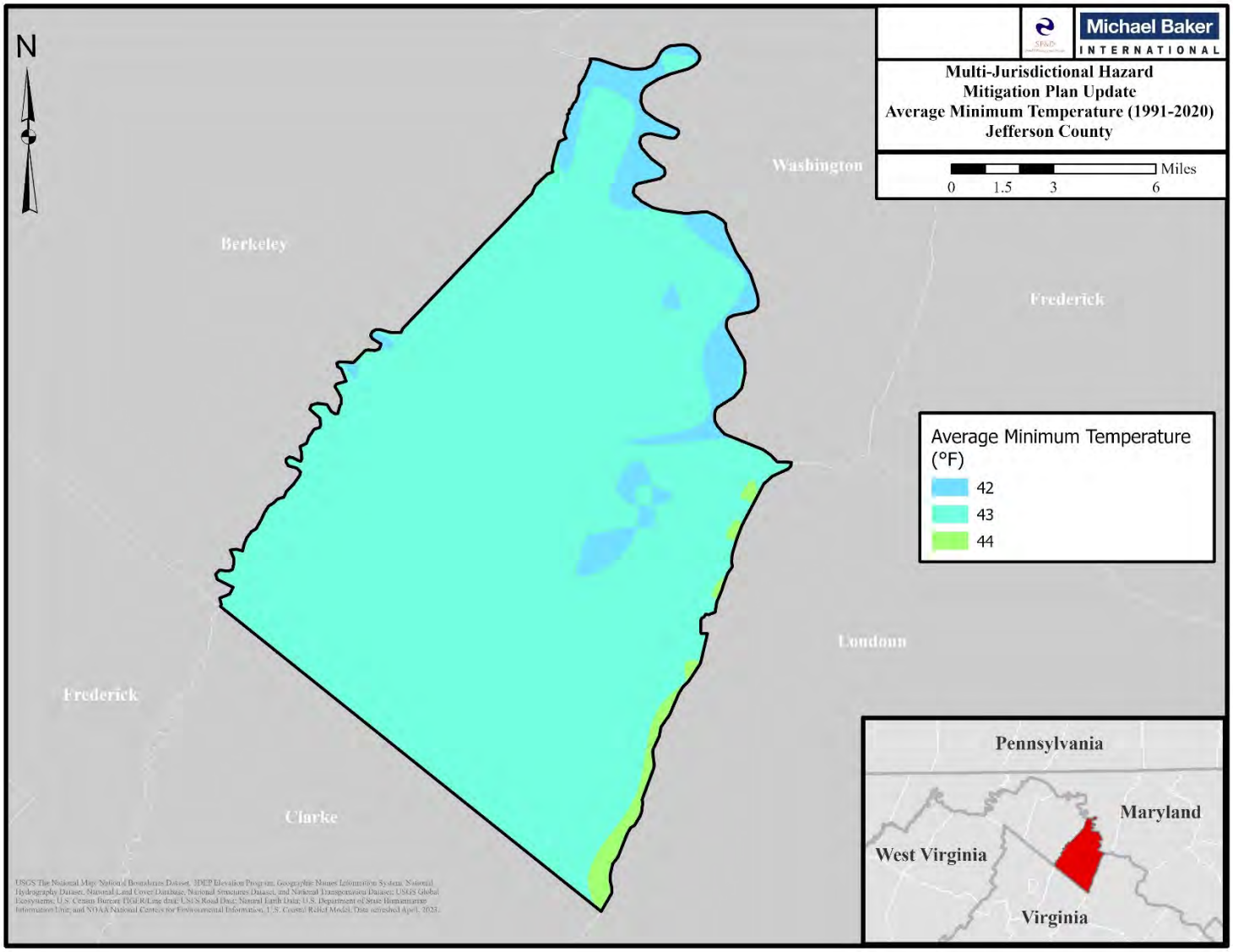
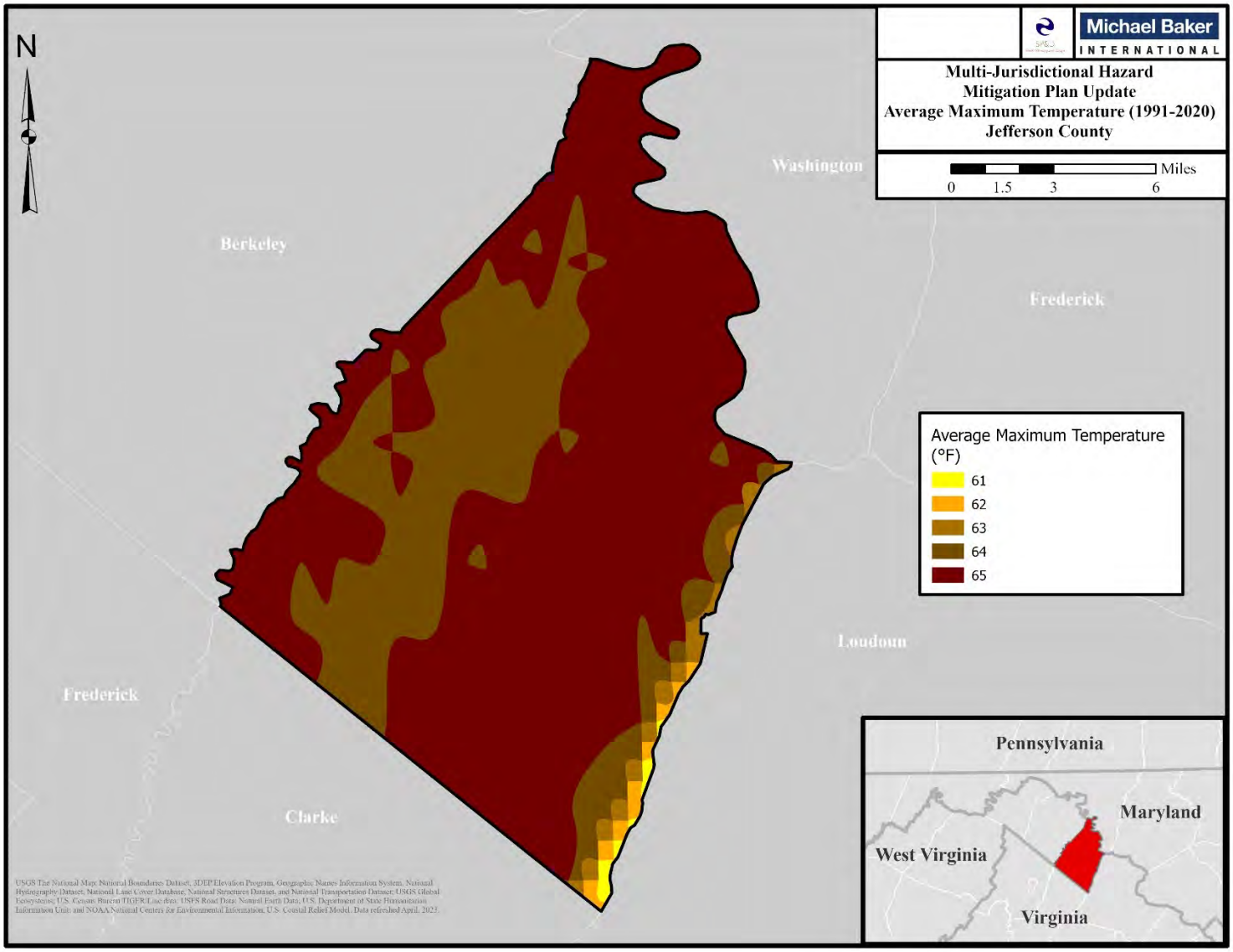


Figure 4-11: Jefferson County Average Maximum Temperatures 1991-2020



Since 1997, the NCEI reports a total of 33 heat events, four excessive heat events, nine cold/wind chill events, five extreme cold/wind chill events, and 37 Frost/Freeze events. All combined, there have been a total of 88 extreme temperature events that NCEI has recorded. The occurrences between 1997 and 2023 are outlined in Table 4-13 below, which includes event-specific injuries and crop damage. The NCEI has not reported any deaths or property damage as a result of extreme temperatures.

Table 4-13: Temperature Extremes Impacting Jefferson County (1997-2023) (NOAA NCEI, 2023)

Date	Event	Injuries	Crop Damage ($)	Date	Event	Injuries	Crop Damage ($)
4/10/1997	Frost/Freeze	0	1000000	10/29/2011	Frost/Freeze	0	0
8/16/1997	Heat	0	0	3/27/2012	Frost/Freeze	0	0
1/6/1998	Heat	0	0	7/7/2012	Heat	0	0
3/11/1998	Cold/Wind Chill	0	0	10/13/2012	Frost/Freeze	0	0
3/27/1998	Heat	0	0	5/14/2013	Frost/Freeze	0	0
7/21/1998	Heat	0	0	10/25/2013	Frost/Freeze	0	0
6/7/1999	Heat	3	0	10/18/2015	Frost/Freeze	0	0
7/4/1999	Heat	0	0	10/19/2015	Frost/Freeze	0	0
1/2/2000	Excessive Heat	0	0	4/3/2016	Frost/Freeze	0	0
1/21/2000	Extreme Cold/Wind Chill	0	0	4/5/2016	Frost/Freeze	0	0
1/22/2000	Extreme Cold/Wind Chill	0	0	4/5/2016	Frost/Freeze	0	0
1/27/2000	Extreme Cold/Wind Chill	0	0	4/9/2016	Frost/Freeze	0	0
3/8/2000	Heat	0	0	4/13/2016	Frost/Freeze	0	0
5/6/2000	Heat	0	0	4/14/2016	Frost/Freeze	0	0
6/10/2000	Heat	0	0	7/25/2016	Heat	0	0
6/25/2000	Heat	0	0	8/13/2016	Heat	0	0
12/22/2000	Extreme Cold/Wind Chill	0	0	10/26/2016	Frost/Freeze	0	0
4/19/2001	Extreme Cold/Wind Chill	0	0	5/9/2017	Frost/Freeze	0	0
6/12/2001	Heat	0	0	7/20/2017	Heat	0	0
6/27/2001	Heat	0	0	10/27/2017	Frost/Freeze	0	0
8/6/2001	Heat	0	0	1/5/2018	Cold/Wind Chill	0	0
5/20/2002	Frost/Freeze	0	0	4/21/2018	Frost/Freeze	0	0
7/2/2002	Heat	0	0	6/18/2018	Heat	0	0
7/28/2002	Heat	0	0	7/1/2018	Heat	0	0
8/1/2002	Heat	0	0	7/2/2018	Heat	0	0
8/12/2002	Heat	0	0	7/3/2018	Heat	0	0
8/22/2002	Heat	0	0	9/4/2018	Heat	0	0
12/7/2002	Cold/Wind Chill	0	0	10/19/2018	Frost/Freeze	0	0
1/10/2004	Cold/Wind Chill	0	0	1/21/2019	Cold/Wind Chill	0	0

Table 4-13: Temperature Extremes Impacting Jefferson County (1997-2023) (NOAA NCEI, 2023)							
Date	Event	Injuries	Crop Damage ($)	Date	Event	Injuries	Crop Damage ($)
1/15/2004	Cold/Wind Chill	0	0	1/30/2019	Cold/Wind Chill	0	0
1/31/2004	Cold/Wind Chill	0	0	7/19/2019	Excessive Heat	0	0
4/28/2004	Frost/Freeze	0	0	7/20/2019	Excessive Heat	0	0
10/27/2005	Frost/Freeze	0	0	7/21/2019	Excessive Heat	0	0
10/29/2005	Frost/Freeze	0	0	10/19/2019	Frost/Freeze	0	0
5/23/2006	Frost/Freeze	0	0	4/16/2020	Frost/Freeze	0	0
7/17/2006	Heat	0	0	4/18/2020	Frost/Freeze	0	0
8/1/2006	Heat	0	0	5/8/2020	Frost/Freeze	0	0
10/13/2006	Frost/Freeze	0	0	5/9/2020	Frost/Freeze	0	0
4/6/2007	Frost/Freeze	0	0	7/19/2020	Heat	0	0
4/7/2007	Frost/Freeze	0	0	7/20/2020	Heat	0	0
4/8/2007	Frost/Freeze	0	0	10/31/2020	Frost/Freeze	0	0
4/9/2007	Frost/Freeze	0	0	4/23/2021	Frost/Freeze	0	0
4/10/2007	Frost/Freeze	0	0	8/12/2021	Heat	0	0
10/29/2007	Frost/Freeze	0	0	12/23/2022	Cold/Wind Chill	0	0
7/22/2011	Excessive Heat	0	0				

4.4.3.5. Future Occurrence

Jefferson County is unlikely to face hazardous extreme temperatures in a given year, though temperatures are of some concern during winter and summer months. Jefferson County is more likely to encounter extreme cold weather than excessive heat. As seen in Table 4-13 the region is more likely to experience temperatures under 0^{o}F than over 100^{o}F in a given year. However, topography and vegetation can impact temperature differentials in the area. Therefore, the probability of an extreme temperature event in the region is considered possible as defined by the Risk Factor Methodology probability criteria.

Members of the Hazard Mitigation Committee rated temperature hazards a medium level of concern, but as seen in Table 4-14, Jefferson County should be aware of a general trend of warming as discussed in Section 2.1 Geography and Environment. According to the Fourth National Climate Assessment, which utilized the Intergovernmental Panel on Climate Change's Representative Concentration Pathways (RCP) 4.5 and 8.5 scenarios, the annual average temperature across the United States is projected to increase by 2.5°F (RCP 4.5) or 2.9°F (RCP 8.5) between 2021 and 2050, relative to 1976-2005. The RCP 4.5 scenario assumes moderate measures are taken to reduce emissions, while the 8.5 scenario assumes a lower effort and thus more severe impacts. For the Northeast region, the change in annual average temperature is 3.98°F (RCP 4.5) or 5.09°F (RCP 8.5) by 2036-2065 and 5.27°F (RCP 4.5) or 9.11°F (RCP 8.5) by 2071-2100. These changes translate to approximately 20 to 30 more days above 90°F and 20 to 30 fewer days below freezing in the northeastern parts of the United States by mid-century (RCP 8.5) (Vose et al. 2017).

4.4.3.6. Range of Magnitude

Temperature advisories, watches, and warnings are issued by the National Weather Service (NWS) relating the above impacts to the range of temperatures typically experienced in West Virginia. Table 4-14 summarizes thresholds for heat advisories given across the region.

Table 4-14: Thresholds for Heat Advisories (NWS, 2021)

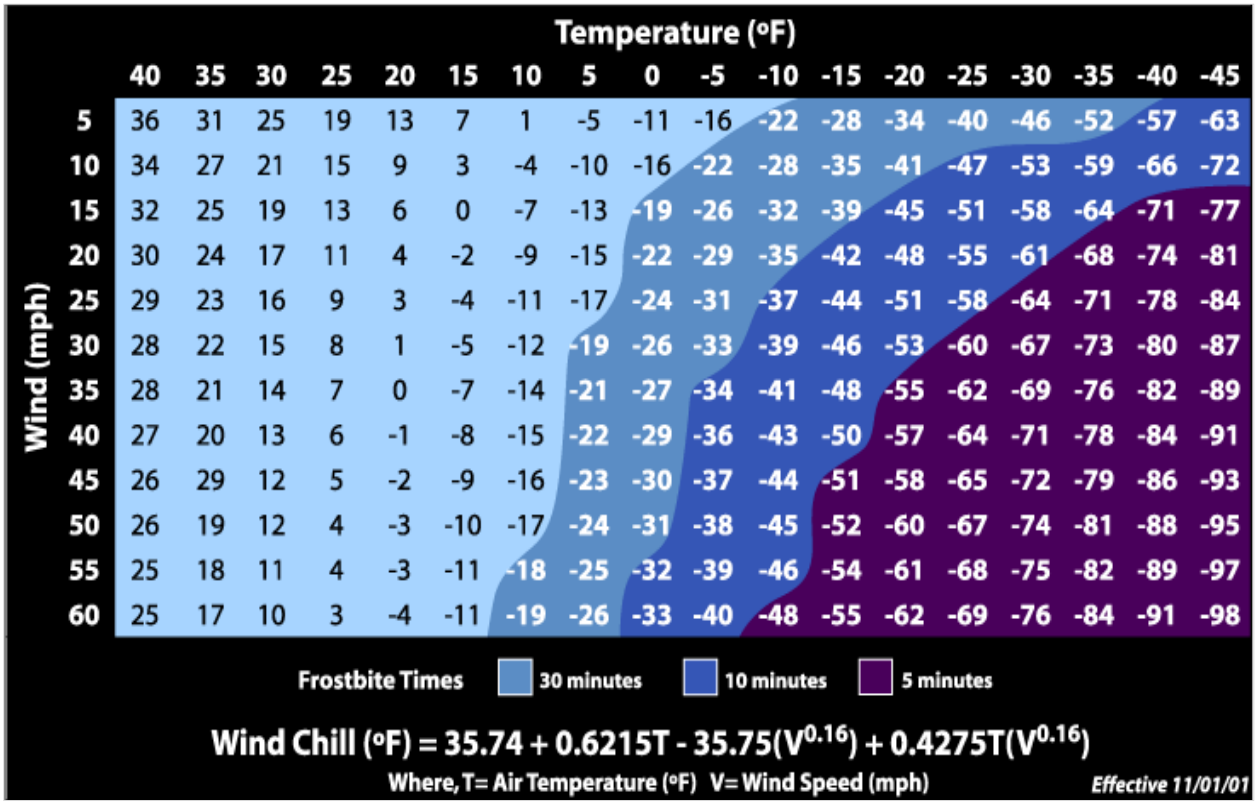
Advisory Level	Description
Heat Advisories	Criteria for a Heat Advisory is a heat index of 100-104°F. The heat index must remain at or above criteria for a minimum of 2 hours. Heat advisories are issued by county when any location within that county is expected to reach criteria
Excessive Heat Warnings	Criteria for an Excessive Heat Warning is a heat index of 105°F or greater that will last for 2 hours or more. Excessive Heat Warnings are issued by county when any location within that county is expected to reach criteria
Excessive Heat Watches	Issued when Heat Warning criteria is possible (50-79 percent) 1 to 2 days in advance

In terms of human health concerns, extremely high temperatures cause heat stress which can be divided into four categories. Each category is defined by apparent temperature which is associated with a heat index value that captures the combined effects of dry air temperature and relative humidity on humans and animals. Major human risks for these temperatures include heat cramps, heat syncope, heat exhaustion, heatstroke, and death. Note that while the temperatures in Table 4-13 serves as a guide for various danger categories, the impacts of high temperatures will vary from person to person based on individual age, health, and other factors. The elderly, the very young, and those with low or no income are most vulnerable to health-related impacts of extreme temperatures (Seltenrich, 2015).

Cold temperatures can be extremely dangerous to humans and animals exposed to the elements. Without heat and shelter, cold temperatures can cause hypothermia, frost bite, and death. Wind chill temperatures are often used in place of raw temperature values because wind can have in drawing heat from the body under cold temperatures (NOAA NWS, 2021). These values represent what temperatures actually feel like to humans and animals under cold, windy conditions. Similarly, to high temperatures, the effect of cold temperatures will vary by individual.

Figure 4-12 and Figure 4-13 show the effects of wind speed on extreme cold events and humidity on extreme heat events. These compounding factors can increase the risk experienced by vulnerable populations and the public.

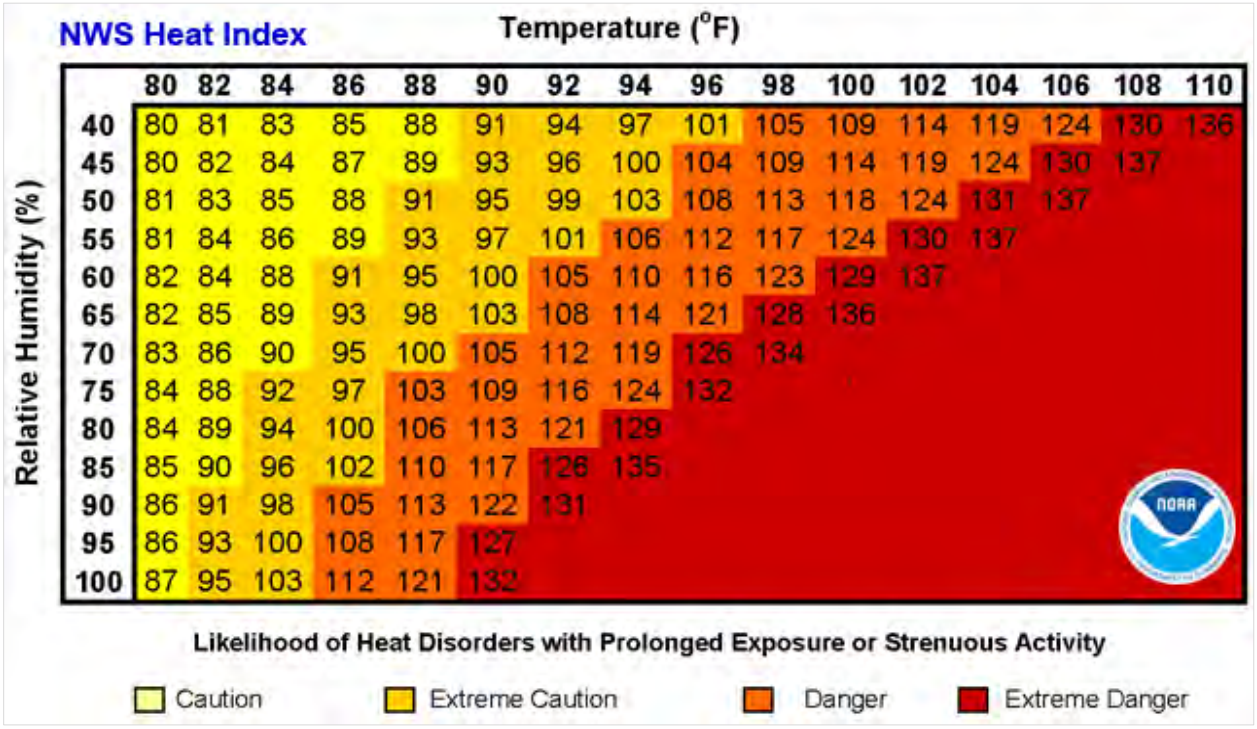
Figure 4-12: Danger Posed by Low Temperatures and Wind (NOAA NWS, 2021)



Cold weather has several effects, most dramatically on the general population mortality rate. The average mortality on a winter day is about 15 percent higher than on a summer day. Cold weather is directly responsible for deaths through hypothermia, influenza, and pneumonia. It is also an indirect factor in several ways such as death and injury from falls, accidents, carbon monoxide poisoning, and house fires all of which are partially attributable to cold.

Exposure to heat can also cause health problems indirectly, such as through increased workload on the heart. This can be especially dangerous to individuals with preexisting medical conditions, typically the elderly (Seltenrich,2015).

Figure 4-13: Danger Posed by Heat and Humidity (NOAA NWS, 2021)



The following impacts can be observed following extreme temperature events:

- **Health Impacts:** The health impacts of extreme cold are greater in terms of mortality in humans, but often after more prolonged exposure vs. a cold snap. Extreme heat waves, however, can prove more deadly over a shorter duration. At greatest risk of death in heat waves are the urban-dwelling elderly without access to an air-conditioned environment for at least part of the day.
- **Transportation:** Cold weather can impact automotive engines, possibly stranding motorists, and stress metal bridge structures. Highway and railroad tracks can become distorted in high heat. Disruptions to the transportation network and accidents due to extreme temperatures represent an additional risk.
- **Agriculture:** Absolute temperature and duration of extreme cold can have devastating effects on trees and winter crops. Livestock is especially vulnerable to heat and crop yields can be impacted by heat waves that occur during key development stages.
- **Energy:** Energy consumption rises significantly during extreme cold weather, and any fuel shortages or utility failures that prevent the heating of a dwelling place residents in extreme danger. Extreme heat also can result in utility interruptions, and sagging transmission lines due to the heat can lead to shorting out.

The range of these impacts, especially health effects, can be mitigated through improved forecasts, warnings, community preparedness, and appropriate community-based response. A worst-case event for

Jefferson County would include extreme cold temperatures, with injuries resulting from direct exposure (as a result of an interruption of energy supplies), and from being cut off from medical care due to associated snow or ice impacting travel. Medical afflictions could be a result of direct influence on the coronary circulation system and the respiratory system, and influenza and other infectious diseases would be secondary impacts. Extreme heat could also be disastrous, particularly if mixed with effect of a drought (Seltenrich, 2015).

4.4.3.7. Vulnerability Assessment

The potential for extreme heat and cold always exists in and around the summer and winter months. Meteorologists and weather forecasters can normally predict the temperature with excellent accuracy. Adhering to extreme temperature warnings can significantly reduce the risk of temperature related deaths. Those hardest hit by both heat and cold waves are adults 75 years of age or older, many who are already physically vulnerable. Excessive heat exposure also affects people with certain pre-existing medical conditions, including cardiovascular disease, respiratory illnesses, and obesity. As of July 2022, 17.3% of Jefferson County's population was over the age of 65, while 33% of the population was classified as obese in 2021. Additionally, Jefferson County's ageing population grew by 58.7% between 2010 and 2021, becoming the fastest-growing age group in the area (USA Facts, 2022). Efforts to mitigate the impacts should focus on those groups most vulnerable. These groups will more likely be located in areas where the population is aging; however, affects will be noticed in senior communities and neighborhoods throughout Jefferson County. Officials should also focus on mobile home parks, where populations also tend to be aging. Jefferson County is vulnerable to extreme temperatures, but vulnerabilities are extremely individualized among the general population and will continue to be extremely difficult to address from a county-wide or even local emergency response standpoint.

4.4.3.8. People

Extreme temperature events can pose a threat to the entire county's population. Still, certain populations are considerably more vulnerable to experiencing health issues due to underlying health conditions or age. People living without adequate access to air conditioning and heating are also particularly vulnerable.

From excessive heat to extreme cold, extreme temperatures have the capacity to cause a wide range of health problems varying in severity. In the United States, extreme heat is one of the biggest culprits in of weather-related deaths, while also causing heat strokes, heat exhaustion, rhabdomyolysis, heat syncope, heat cramps, and heat rashes. Prolonged exposure to extreme cold can cause hypothermia or frostbite, which can lead to permanent health damages, amputation, or death in worst-case scenarios.

4.4.3.9. Structures

Typically, heat or excessive heat events do not significantly damage structures, besides potentially "overheating of heating, ventilation, and air conditioning (HVAC) systems." On the other hand, extreme cold can freeze pipes or cause them to burst. Poor condition or aging facilities are especially susceptible to extreme temperature events and may not be able to tolerate them.

4.4.3.10. Systems

Extreme heat events can sometimes cause short periods of utility failures, commonly referred to as "brown-outs," created by increased usage from air conditioners, appliances, and similar equipment. Similarly, heavy snowfall and ice storms, associated with extreme cold temperature events, can interrupt power as well.

Between 2012 and 2022, West Virginia was included in nine extreme temperature-related agricultural disaster declarations.

4.4.3.11. Natural, Historic and Cultural Resources

Extreme heat events, especially when accompanied by drought conditions, can lead to environmental consequences. Increasing temperatures can lead to exacerbated risk of wildfire; drought and its effects on the health of watersheds; and increased stress, migration, and death in plants and animals. Freezing and warming weather patterns create changes in natural processes. An excess amount of snowfall followed by early warming periods may affect natural processes such as flow of water resources.

4.4.3.12. Community Activities

Outdoor activities are likely the most at risk to cancellation during extreme heat events, as mitigating risk to the community primarily revolves around taking shelter in adequately heated or cooled spaces, depending on the type of extreme temperature occurring. Below are community activities that occur throughout the year or annually.

- Jefferson County Fair – July and August at Jefferson County Fairgrounds and weekly farm markets
- Historical Walking Tours of Harpers Ferry, WV – Available All Year (Note four (4) of the National Register Areas within Harpers Ferry are located in the 1-percent-annual chance floodplain.)
- Hollywood Casino Horse Races – Reoccurring – Located in Charles Town
- September 22 - 24 - Mountain Heritage Arts & Craft Festival at Jefferson County Fairgrounds
- October 7 - Freedoms Run (Note: held in in Harpers Ferry & Shepherdstown.)

4.4.4. Flood

Flooding has impacted Jefferson County in the past and will continue to threaten the County in the future, particularly as storms are expected to become more severe due to the changing climate. Flooding is normally the result of a larger event such as a thunderstorm, rapid snowmelt, and/or ice jam. Flooding can be as frequent as the occurrence of a spring rain or summer thunderstorm. The amount of precipitation produced by storm events determines the type of flooding. Flash floods, which typically occur more frequently than general floods, occur along small streams and creeks of the type that are widely present throughout the Eastern Panhandle.

Flooding is one of the most frequent natural hazards faced by communities across the country as well as one of the costliest. West Virginia is no stranger to flooding; in fact, it is the number one natural hazard in the state. The topography of the region is mountainous with many valleys and gorges with rivers and streams, making the region prone to flooding activity. There are several types of floods, each with their own characteristics and related dangers.

    - Riverine Floods typically develop over a period of days and occur when a river gradually rises and overspills its banks. These floods can be attributed to large amounts of rain or snowmelt both in the region impacted and upstream. Due to their nature of gradually building up, these types of floods will typically have a warning period of a few days.
- Flash Floods are the most common severe weather emergency in the United States according to the National Flood Insurance Program (NFIP) (2016). The NFIP also states that a flash flood is, “a rapid flooding of low-lying areas in less than six hours, which is caused by intense rainfall from a thunderstorm or several thunderstorms” (2016).
    - According to NOAA, some of the possible causes for flooding include the following:
    - Excessive Rainfall: This is the most common cause of flooding. Water accumulates quicker than the soil can absorb resulting in flooding.
    - Snowmelt: It occurs when the major source of water involved is caused by melting snow. Unlike rainfall that can reach the soil almost immediately, the snowpack can store the water for an extended amount of time until temperatures rise above freezing and the snow melts.
    - Ice or Debris Jams: Common during the winter and spring along rivers, streams, and creeks. As ice or debris moves downstream, it may get caught on any type of obstruction to the water flow. When this occurs, water can be held back, causing upstream flooding. When the jam finally breaks, flash flooding can occur downstream.
    - Dam Breaks: Dams can overtop, have excessive seepage, or have structural failure. Dam failure has been identified as a new threat and is included as a new chapter in this plan.

4.4.4.1. Location and Extent

Flood sources within Jefferson County include rivers and streams. For inland areas like the Eastern Panhandle, excess water from snowmelt or rainfall accumulates and overflows onto stream banks and adjacent floodplains. Jefferson County is located at the confluence of the Potomac and Shenandoah rivers and is separated by three (3) major drainage divides; Potomac River, Shenandoah River, and Opequon Creek. Communities located along the banks of the Potomac and Shenandoah Rivers are in particularly low-lying areas. Examples include the towns of Bolivar, Harpers Ferry, and Shepherdstown.

A network of 22 major streams feed into the Potomac River, Shenandoah River, and Opequon Creek. Most streams in the County flow northwest-southeast orientation toward Opequon Creek or Shenandoah River. Large tributaries in the region include Turkey Run, Evitts Run, and Flowing Springs Run. All waters flow into the lower Potomac River and the Chesapeake Bay.

From a municipal perspective:

- In Bolivar and Harpers Ferry, the 1-percent-annual chance flood hazard area reaches the outer edges of the towns along the Shenandoah and Potomac Rivers. It mainly covers the rail lines that pass through the town and a few streets along the rivers. See Figure 4-21 and Figure 4-23.
- In Charles Town, the main areas that flood include the areas around Evitts Run and its tributaries to the south and Cattail Run and extend to reach a few streets in the surrounding area. See Figure 4-22.
- Evitts Run similarly affects Ranson in that it can overflow and reach some surrounding streets; Flowing Springs Run could also affect rails and streets that are close to the stream. See Figure 4-24 .
- Shepherdstown is along the Potomac River but does not experience significant flooding along the river itself but along Town Run that cuts through the jurisdiction and can significantly flood the downtown area. See Figure 4-25.

Floodplains are lowlands, adjacent to rivers, streams, and creeks that are subject to recurring floods. The size of the floodplain is described by the recurrence interval of a given flood. However, in assessing the potential spatial extent of flooding it is important to know the difference between the 1-percent-annual chance floodplain and the 0.2-percent-annual chance floodplain. The 1-percent-annual chance flood event, also known as the base flood, represents a flood event having a 1-percent chance of being equaled or exceeded in any given year or 100-year flood. The National Flood Insurance Program (NFIP), for which Flood Insurance Rate Maps (FIRM) are published, identifies the risk associated with the 1-percent-annual chance flood. This 1-percent-annual chance flood event is used to delineate the Special Flood Hazard Area (SFHA) and to identify Base Flood Elevations (BFE). Figure 4-14 and Figure 4-15 illustrates these terms. The SFHA serves as the primary regulatory boundary used by FEMA, and the State of West Virginia, when determining risk associated with flooding.

Figure 4-14: Diagram Identifying Special Flood Hazard Area and 100-Year Floodplain

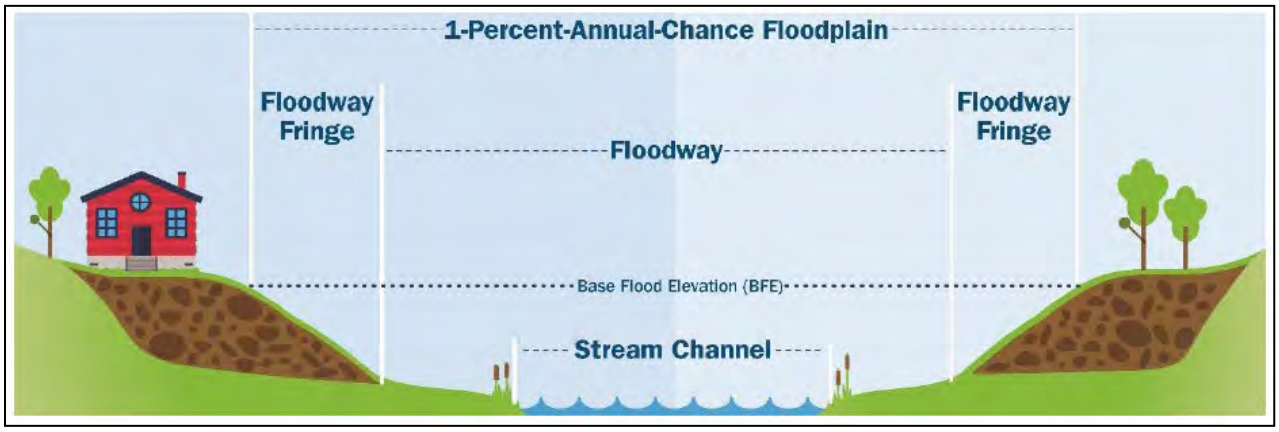
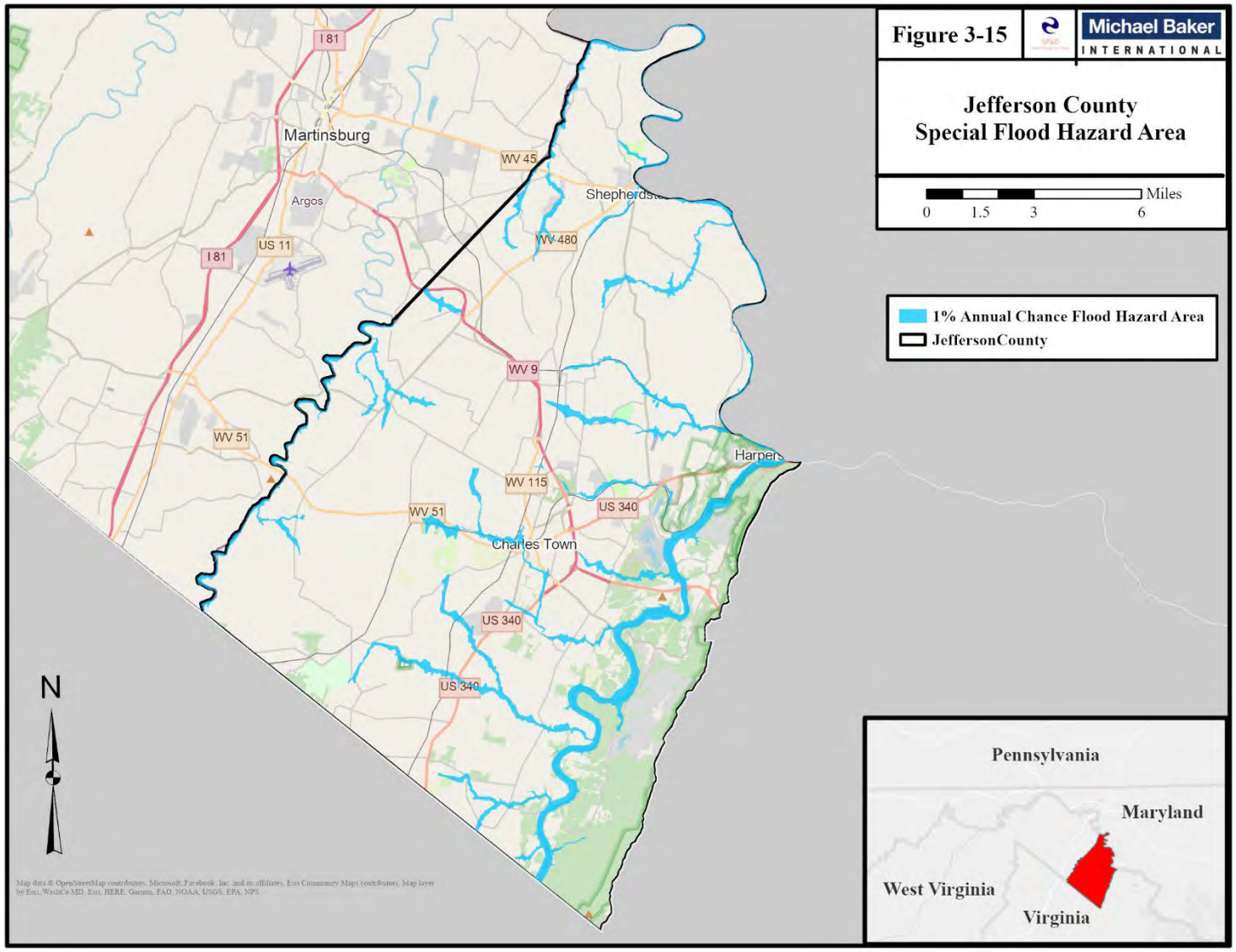
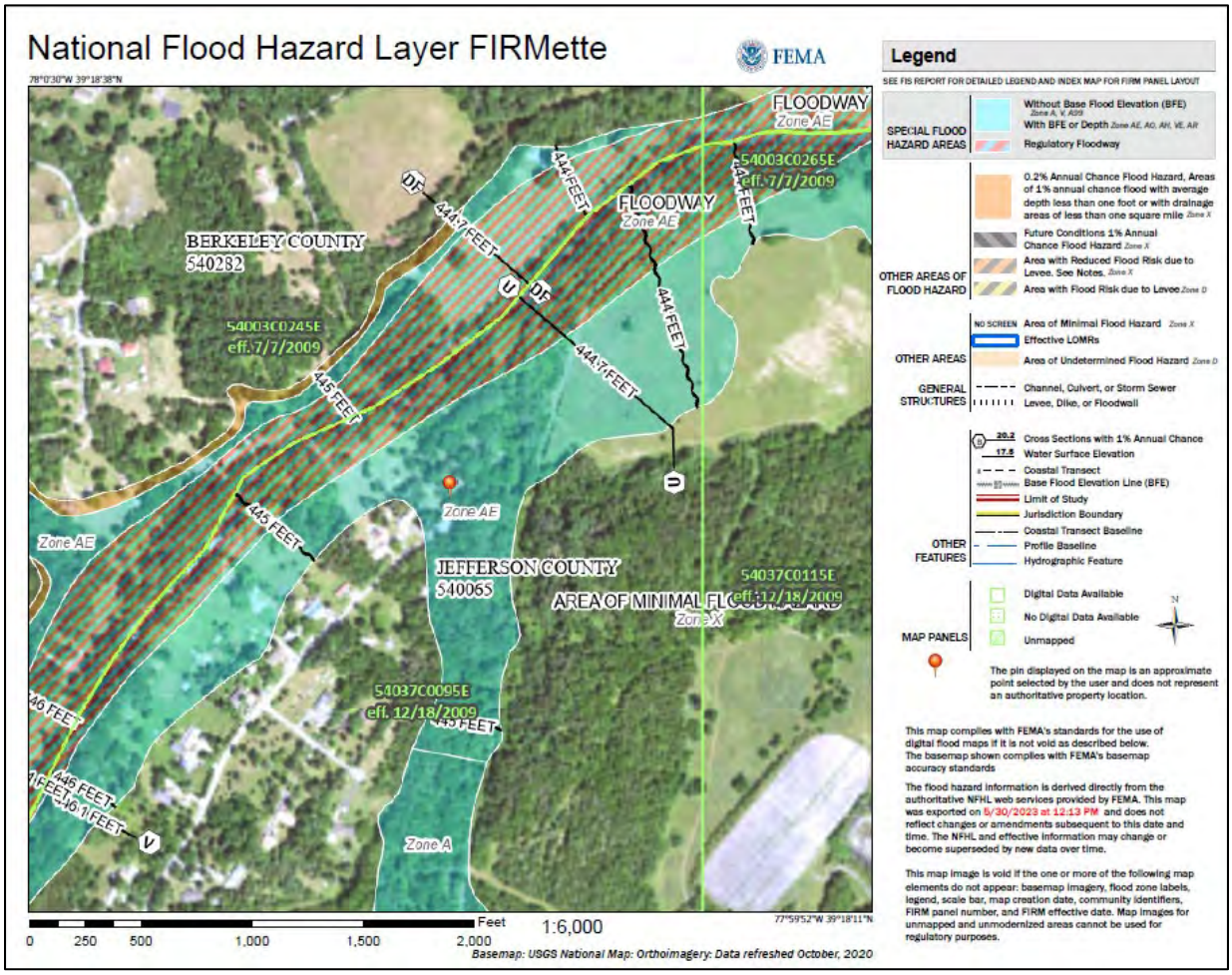


Figure 4-15: Jefferson County Special Flood Hazard Area



The current countywide FIRM and Flood Insurance Study (FIS) report was published for Jefferson County on December 18, 2009 (FEMA, 2023c). The best available flood hazard data, which was used to update this flood hazard profile, included current effective FIRM data and incorporated Letters of Map Revision (LOMRs). Figure 4-16 displays an example of a FIRM, found along Opequon Creek. The FIRM and FIS for Jefferson County can be obtained from the FEMA Map Service Center (http://www.msc.fema.gov) and can be used to identify the expected spatial extent and elevation of flooding from a 1-percent and 0.2-percent-annual chance event.

Figure 4-16: FIRM Panel 54037C0095E Showing Flood Hazard Areas along Opequon Creek Jefferson County (FEMA, 2023c)



According to Figure 4-15, Jefferson County faces flooding countywide. Jefferson County is most threatened by flooding resulting from Opequon Creek and its tributaries on the western boundary, while the Shenandoah River and its tributaries impacts the eastern to southeastern portion of the County. Jefferson County also faces some risk of flooding from the Potomac River. In these figures, Zone A represents areas with a 1 percent annual chance of flooding and a 26 percent chance of flooding over the

life of a 30-year mortgage. Zone AE represents the base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones. Zone X represents an area of moderate flood hazard (FEMA, 2023c).

In terms of future conditions, climate changes are expected to increase both the quantity and severity of storms. As a result, the locations and geographic extent of flooding are expected to increase. In addition to the 1-percent-annual chance floodplain, the 0.2-percent-annual chance flood represents a flood event having a 0.2-percent chance of being equaled one exceeded in any given year, sometimes referred to as the 500-year flood. This area is considered a moderate risk area, however, may become a high hazard risk area in the future.

As reported in a Washington Post article, American Underwater, extreme floods expose the flaws in FEMA's risk maps (Oakford et al, 2022). Excerpt from the article provided below:

Half a century ago, Congress directed FEMA to model for one-in-100-year floods, which is still what prompts property owners with federally backed mortgages to purchase flood insurance. But now, even more extreme precipitation events are growing increasingly common, as a warming climate allows storms to carry more moisture, producing greater rain or snow in a short period of time.

"Climate has changed so much that the maps aren't going to keep up for some time," said W. Craig Fugate, FEMA administrator under President Barack Obama. "They are not designed for extreme rainfall events."

4.4.4.2. Past Occurrence

Jefferson County has a long history of flooding events. Some small, localized flooding events occur annually with minimal property damage. However, occasionally larger floods can occur, seriously impacting communities and destroying property. Flood and flash flood events are listed in Table 4-15. These are the oldest floods for which data is available from the National Centers for Environmental Information (NCEI).

FEMA Flood Zones

In developing zone maps, FEMA focuses primarily on identifying the 1-percent annual chance floodplain (also known as the 100-year floodplain, Special Flood Hazard Area, or SFHA). As a result, FEMA maps the areas with a 1% annual chance of flooding. The SFHA designation is important because it is the basis for floodplain management regulations for communities across the country and because it decides whether a home is required to have flood insurance or not.

FEMA's high-risk flood zones – those that make up the SFHA – are those that begin with the letters "A" or "V." Note, Jefferson County does not have "V" zones as these are only found in coastal areas. Homeowners located in A or V zones are required to purchase flood insurance if they have a mortgage from a federally backed or federally regulated lender. FEMA's low and moderate-risk flood zones – those outside the SFHA – are those that begin with the letters "X," "B," or "C." Flood insurance is not required within these zones. These zones could still have flood risk as historically more than 20% of NFIP claims are made by policyholders in an X, B, or C zone.

Source: Understand The Differences Between FEMA Flood Zones

Property damages are estimates reported to the NCEI by trained storm spotters and displayed in the Storm Events database. Please note a zero-dollar entry may indicate minimal property damage, or that damage costs were not reported.

Table 4-15: Flood and Flash Flood Events Impacting Jefferson County 1996-April 2023 (NCEI NOAA, 2023b)

County	Starting Location	Date	Type	Property Damage ($)
Jefferson	Not Provided (NP)	1/19/1996	Flood	20,000,000
Jefferson	All	1/19/1996	Flash Flood	0
Jefferson	Countywide	9/6/1996	Flash Flood	100,000
Jefferson	North Portion	9/10/1997	Flash Flood	4,000
Jefferson	Countywide	11/7/1997	Flash Flood	0
Jefferson	Countywide	1/8/1998	Flash Flood	5,000
Jefferson	Countywide	2/4/1998	Flash Flood	0
Jefferson	Countywide	3/20/1998	Flash Flood	2,500
Jefferson	Countywide	6/15/2000	Flash Flood	0
Jefferson	NP	1/2/2003	Flood	0
Jefferson	NP	2/22/2003	Flood	0
Jefferson	NP	3/7/2003	Flood	0
Jefferson	NP	3/21/2003	Flood	0
Jefferson	NP	5/11/2003	Flood	0
Jefferson	NP	5/16/2003	Flood	0
Jefferson	Countywide	6/13/2003	Flash Flood	0
Jefferson	NP	9/19/2003	Flood	100,000
Jefferson	NP	11/19/2003	Flood	0
Jefferson	NP	2/6/2004	Flood	0
Jefferson	NP	4/13/2004	Flood	0
Jefferson	Charles Town	9/28/2004	Flash Flood	0
Jefferson	Countywide	11/29/2005	Flash Flood	150,000
Jefferson	Millville	6/27/2006	Flash Flood	25,000
Jefferson	Shepherdstown	3/2/2007	Flood	15,000
Jefferson	Shepherdstown	4/16/2007	Flood	0
Jefferson	Charles Town	3/13/2010	Flood	0
Jefferson	Shepherdstown	3/13/2010	Flood	0
Jefferson	Mountain Mission	4/16/2011	Flood	0
Jefferson	Bolivar	4/16/2011	Flood	0
Jefferson	Leetown	5/16/2014	Flood	0
Jefferson	Leetown	5/16/2014	Flood	0
Jefferson	Leetown	6/1/2015	Flash Flood	0
Jefferson	Millville	2/4/2016	Flood	0

Table 4-15: Flood and Flash Flood Events Impacting Jefferson County 1996-April 2023 (NCEI NOAA, 2023b)				
County	**Starting Location**	**Date**	**Type**	**Property Damage ($)**
Jefferson	Mountain Mission	5/6/2017	Flood	0
Jefferson	Bloomery	5/26/2017	Flood	0
2023 Plan Update				
Jefferson	Shepherdstown	4/17/2018	Flood	0
Jefferson	Engle	5/16/2018	Flood	0
Jefferson	Engle	5/16/2018	Flood	0
Jefferson	Shepherdstown	5/18/2018	Flood	0
Jefferson	Meyerstown	5/18/2018	Flood	0
Jefferson	Engle	6/2/2018	Flood	0
Jefferson	Uvilla	6/2/2018	Flood	0
Jefferson	Meyerstown	6/3/2018	Flood	0
Jefferson	Shepherdstown	6/3/2018	Flood	0
Jefferson	Harpers Ferry	6/4/2018	Flood	0
Jefferson	Millville	6/23/2018	Flood	0
Jefferson	Shepherdstown	9/9/2018	Flood	0
Jefferson	Aldridge	9/10/2018	Flood	0
Jefferson	Uvilla	9/10/2018	Flood	0
Jefferson	Meyerstown	9/18/2018	Flood	0
Jefferson	Shepherdstown	9/26/2018	Flood	0
Jefferson	Meyerstown	9/28/2018	Flood	0
Jefferson	Shepherdstown	9/28/2018	Flood	0
Jefferson	Harpers Ferry	9/29/2018	Flood	0
Jefferson	Millville	12/16/2018	Flood	0
Jefferson	Bolivar	12/16/2018	Flood	0
Jefferson	Millville	12/22/2018	Flood	0
Jefferson	Uvilla	5/5/2019	Flood	0
Jefferson	Leetown	5/5/2019	Flood	0
Jefferson	Aldridge	5/5/2019	Flood	0
Jefferson	Mt Pleasant	5/5/2019	Flood	0
Jefferson	Leetown	5/5/2019	Flood	0
Jefferson	Charles Town	7/8/2019	Flood	0
Jefferson	Charles Town	7/8/2019	Flood	0
Jefferson	Kearneysville	7/8/2019	Flood	0
Jefferson	Shepherdstown	5/1/2020	Flood	0
Jefferson	Leetown	12/25/2020	Flood	0
Jefferson	Bloomery	12/25/2020	Flood	0

Table 4-15: Flood and Flash Flood Events Impacting Jefferson County 1996-April 2023 (NCEI NOAA, 2023b)				
County	**Starting Location**	**Date**	**Type**	**Property Damage ($)**
Jefferson	Shepherdstown	3/1/2021	Flood	0
Jefferson	Bolivar	6/11/2021	Flood	0
Jefferson	Engle	6/11/2021	Flood	0
Jefferson	Mt Pleasant	6/11/2021	Flood	0
Jefferson	Bolivar	9/1/2021	Flood	0
Jefferson	Vanclevesville	5/7/2022	Flood	0

Source: National Centers for Environmental Information, June 2023.

Since 1996, which is the earliest year of record for flood events from NCEI, Jefferson County has experienced 13 flash floods and 61 floods; 2.7 events per year. The Spatial Hazard Events and Losses Database (SHELDUS) records flooding events before 1996; Table 4-16 includes these events.

Table 4-16: Flood Events Impacting Jefferson County Before 1996 (SHELDUS)		
Hazard	**Year**	**Month**
Flooding	1967	March
Flooding	1968	May
Flooding	1978	January
Flooding	1978	December
Flooding	1979	September
Flooding	1980	May
Flooding	1980	August
Flooding	1981	June
Flooding	1985	November
Flooding	1987	April
Flooding	1994	March
Flooding	1994	August

According to FEMA, there has been one disaster declaration for flooding in Jefferson County for events at the beginning of June of 2008. On June 19, 2008, President Bush declared that a major disaster exists in the State of West Virginia. This declaration made Individual Assistance requested by the Governor available to affected individuals and households in Barbour, Doddridge, Gilmer, Harrison, Jackson, Jefferson, Marion, Taylor, and Tyler Counties.

However, the NCEI storm event database does not present any records for flooding during this period. This declaration is for thunderstorm wind in Jefferson County.

The most severe flooding event Jefferson County encountered was the January 1996 flood event caused by heavy rain and snowmelt. The January 19, 1996 flooding resulted from an unprecedented combination of unseasonably warm air, rainfall totals between 3 to 5 inches, and an existing dense snowpack between 12 to 18 inches that melted within a 12-hour period. This influx of rain and snowmelt produced catastrophic flooding across the region, damaging homes, businesses, and causing several towns to evacuate. Property damage in Jefferson County was estimated at roughly $20,000,000 (NCEI, 2023). The National Park Service at historic Harpers Ferry (WVZ053) estimated damage to the park (and new construction within) at $3 million, comparable to the 1985 damage figures.

Another particularly intense year for flooding in the region was 2018. West Virginia Governor Jim Justice declared a State of Emergency in eight counties for flooding from heavy rain, including Jefferson County in June 2018. According to the NCEI event narrative, stream gauges on the Shenandoah River near Millville, the Potomac River at Shepherdstown, and the Potomac River at Harpers Ferry indicated each waterway exceeded the flood stages during this flood event (NCEI, 2023). On June 4, 2018 numerous locations in Jefferson County flooded according to National Weather Service (NWS) (NWS, 2023). This flood event was the third event in 2018 for Shepherdstown. Numerous roadways were closed, and several sections of road were damaged or washed out.

Figure 4-17: The Potomac River flows under the railroad bridge in Harpers Ferry.

(Journal photo by Victoria Dewey) Source: Flood waters rising; Jefferson County declares state of emergency

4.4.4.3. Repetitive Loss Properties

In addition to past flood events, the NFIP identifies properties that experience frequent flooding and can be used to determine areas of higher risk. These properties are identified through the NFIP when they receive more than one payment for flood damages. The NFIP defines a Repetitive Loss (RL) property as "any insurable building for which two or more claims of more than $1,000 were paid by the NFIP within any rolling ten-year period, since 1978." The data provided in Figure 4-16 and throughout the plan represents the NFIP's definition of RL.

The FEMA NFIP defines a **repetitive loss property** as:

- Properties are those for which two or more losses of at least $1,000 each have been paid under the National Flood Insurance Program (NFIP) within any 10-year period since 1978."

The FEMA NFIP defines **severe repetitive loss properties** as:

- A property that has at least four NFIP claim payments (including building and contents) over $5,000 each, and the cumulative amount of such claims payments exceeds $20,000; or,
- A property for which at least two separate claims payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building.

The 2023 Hazard Mitigation Assistance Program and Policy Guide (page 304) defines repetitive loss and severe repetitive loss properties differently, and these definitions are as follows:

A repetitive loss property is a structure covered by a contract for flood insurance made available under the NFIP that:

a. Has incurred flood-related damage on 2 occasions, in which the cost of the repair, on the average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event and
b. At the time of the second incidence of flood-related damage, the contract for flood insurance contains increased cost of compliance coverage.

A severe repetitive loss property is a structure that:

a. Is covered under a contract for flood insurance made available under the NFIP
b. Has incurred flood related damage –
    i. For which 4 or more separate claims payments (includes building and contents) have been made under flood insurance coverage with the amount of each such claim exceeding $5,000, and with the cumulative amount of such claims payments exceeding $20,000 or
    ii. For which at least 2 separate claims payments (includes only building) have been made under such coverage, with the cumulative amount of such claims exceeding the market value of the insured structure.

Although Jefferson County has completed many flood mitigation projects in the past and continues participating in the community rating system, there still have been some repetitive and severe repetitive loss properties in the county. Using data provided by FEMA in August 2023, Table 4-17 displays repetitive loss properties by jurisdiction and type in Jefferson County. There is a total of 21 repetitive loss properties, and 1 severe repetitive loss property in the county (Table 4-18). Twenty of the repetitive loss structures are located in the unincorporated area of the county and are single family homes. In addition, the severe repetitive loss property is located in the unincorporated area of the county. Only one repetitive loss property is located in an incorporated area of the county, Ranson.

Table 4-17: Number and type of Repetitive Loss Properties by Municipality (FEMA, 2023)				
Jurisdiction	**Type**			**Sum of Repetitive Loss Properties**
	2-4 Family	**Other Non-Residential**	**Single Family**	
Jefferson County	0	0	21	21
Bolivar	0	0	0	0
Charles Town	0	0	0	0
Harpers Ferry	0	0	0	0
Ranson	0	1	0	1
Shepherdstown	0	0	0	0
Jefferson County Total	**0**	**1**	**21**	**22**

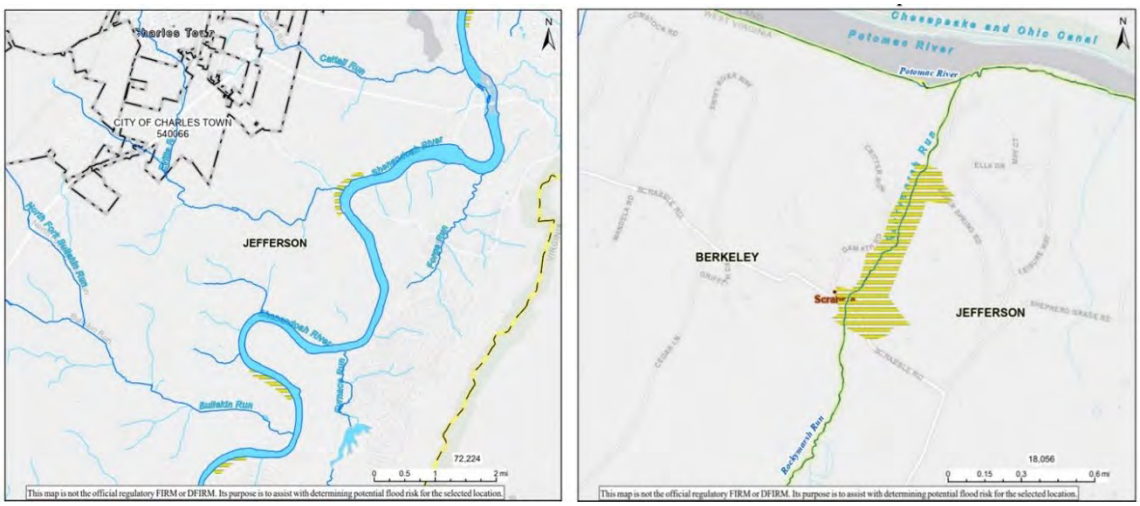
Table 4-18: Number and type of Severe Repetitive Loss Properties by Municipality (FEMA, 2023)				
Jurisdiction	**Type**			**Sum of Severe Repetitive Loss Properties**
	2-4 Family	**Other Non-Residential**	**Single Family**	
Jefferson County	0	0	1	1
Bolivar	0	0	0	0
Charles Town	0	0	0	0
Harpers Ferry	0	0	0	0
Ranson	0	0	0	0
Shepherdstown	0	0	0	0
Jefferson County Total	**0**	**0**	**1**	**1**

Repetitive loss areas are a portion (or portions) of a community that includes buildings on FEMA's list of repetitive losses and also any nearby properties that are subject to the same or similar flooding conditions. WV Flood Tool provides Repetitive Loss Areas, which are areas identified for flood risk assessment as part of HMGP project. Note, these areas are preliminary and not supposed to be definitive source for identification of repetitive loss areas. As depicted in below, four repetitive loss areas have been identified in the unincorporated areas of the County along the Shenandoah River. An additional area along Rockymarsh Run, which runs along the border of Berkeley and Jefferson County.

4.4.4.4. NFIP and CRS

Floods are the most common and costly natural catastrophe in the United States. In terms of economic disruption, property damage, and loss of life, floods are "nature's number-one disaster" (CRS, 2021).

Figure 4-17: Repetitive Loss Areas in Jefferson County



For citizens to protect their property against flood loss. Home and business owners can purchase flood insurance through private insurers or through the National Flood Insurance Program (NFIP).

Congress established the NFIP in 1968 to help control the growing cost of federal disaster relief (CRS, 2021). The NFIP, administrated through FEMA, offers federally backed flood insurance at discounted rates when communities adopt and enforce effective floodplain management ordinances to reduce future flood losses based on flood maps. NFIP is based on voluntary participation of communities but is required for communities to receive federal disaster relief funding.

Each jurisdiction participating in the NFIP has a designated NFIP coordinator, sometimes referred to as the floodplain manager. This individual maintains the jurisdiction's floodplain ordinance and ensures that development is compliant with that ordinance. Each local floodplain manager serves as the point of contact with FEMA regarding floodplain mapping. Table 4-19 lists the Jefferson County municipalities participating in the NFIP.

The minimum floodplain management requirements to be a community in good standing in the NFIP include:

- Review and permit all development in the Special Flood Hazard Area (SFHA);
- Elevate new and substantially improved residential structures above the Base Flood Elevation;
- Elevate or dry floodproof new and substantially improved non-residential structures;
- Limit development in floodways;

- Locate or construct all public utilities and facilities to minimize or eliminate flood damage; and
- Anchor foundation or structure to resist floatation, collapse, or lateral movement.

Table 4-19: Jefferson County NFIP Policies and Claim Information (FEMA, 2023)

Community	Policies in Force	Total Coverage	Prior Claims	Total Amount of Paid Claims
Jefferson County	26	$38,169	23	$207,392.56
Bolivar	0	$0	1	$7,409.13
Charles Town	43	$39,196	46	$648,055.71
Harpers Ferry	44	$59,710	42	$1,216,787.65
Ranson	19	$11,506	20	$54,045.10
Shepherdstown	36	$67,690	20	$238,575.50
Total	**168**	**$216,271.00**	**152**	**$2,372,265.65**

New information was added during the 2023 plan update which includes the FEMA Region 3 NFIP Questionnaire, see Appendix H. The questionnaire was reviewed by Jefferson County staff and includes the following topics:

- Floodplain Identification & Mapping,
- Floodplain Management,
- Flood Insurance, and
- Next Steps.

Next steps identified following the completion of the questionnaire have been integrated into the new mitigation strategies developed during this plan update.

The Community Rating System (CRS) is an additional, voluntary program run by the NFIP to encourage additional community activities that exceed minimum NFIP requirements, with the goal of reducing flood risk. By participating in the CRS, a community can receive discounted flood insurance premiums. Jefferson County is one of the five counties in West Virginia that participate in the CRS.

Jefferson County entered into CRS in October of 2006. In October of 2016, Jefferson County had a class 8 designation, which meant that flood insurance policyholders were eligible for a 10% discount on their rates. As of this plan update, Jefferson County is a class 7 CRS community which means that residents enjoy a 15% discount on their NFIP flood insurance.

4.4.4.5. Future Occurrence

The NFIP recognizes the 1 percent-annual-chance flood as the standard for identifying properties subject to federal flood insurance purchase requirements. The FIRMs published in 2009 can be used to identify areas subject to the 1 percent- and 0.2 percent-annual-chance flooding. Other storm frequencies such as the 2 percent- or 50-year flood and 10 percent-annual-chance flood are not shown on maps; however, water surface elevations associated with these events are included in the flood source profiles contained in the Flood Insurance Study Report. In this plan, the term "Special Flood Hazard Area" is used rather than floodplain to clarify that the area under consideration is identified on the FIRM as having at least a 1-percent chance of flooding in any given year. Historically, the area with a 1-percent chance of flooding in any given year has been called the "100-year floodplain" or the "base flood" and the area with a 0.2-percent chance of flooding in any given year has been called the "500-year floodplain." As these terms can be misleading by suggesting that there will be a flood only every 100 or 500 years respectively, are no longer used.

In Jefferson County, flooding occurs commonly and can take place during any season of the year. However, the possibility of flooding is greatly reduced during the winter months. Although most severe floods are attributable to rainfall alone, the spring floods can be compounded by snowmelt and moving ice. The major floods in the late summer and fall are often associated with tropical storms moving up the Atlantic coastline. Every two to three years, serious flooding occurs along one or more of the area's major rivers or streams and it is not unusual for such events to happen several years in succession. Floods are described in terms of their extent (including the horizontal area affected and the vertical depth of floodwaters) and related probability of occurrence. Historical records are used to determine the probability of occurrence (percent chance) for a flood of specific extent to occur. Annualized events for Jefferson County reported by the National Centers for Environmental Information using both flood and flash flood events, are 2.7 events per year.

4.4.4.6. Range of Magnitude

Floods are considered hazards when people and property are affected. Injuries and deaths can occur when people are swept away by flood currents or bacteria and disease are spread by moving or stagnant floodwaters. Most property damage results from inundation by sediment-filled water. A large amount of rainfall over a short time span can result in flash flood conditions. Small amounts of rain can result in floods in locations where the soil is frozen or saturated from a previous wet period or if the rain is concentrated in an area of impermeable surfaces such as large parking lots, paved roadways, or other impervious developed areas.

Several factors determine the severity of floods, including rainfall intensity and duration, topography, ground cover and rate of snowmelt. Water runoff is greater in areas with steep slopes and little or no vegetative ground cover. The topography of the county varies from steep mountains east of the Shenandoah River to more gently rolling terrain west of the river. Elevations in the county range from approximately 275 feet at Harpers Ferry to approximately 1,700 feet in the mountains east of the

Shenandoah River (FIS, 2009). Therefore, the significant amounts of sloping and mountainous terrain can contribute to more severe floods as runoff reaches receiving water bodies more rapidly over steep terrain. Also, urbanization typically results in the replacement of vegetative ground cover with asphalt and concrete, increasing the volume of surface runoff and stormwater, particularly in areas with poorly planned stormwater drainage systems. According to the Jefferson County Stormwater Management Ordinance, in addition to quantity control criteria for newly developed impervious surface and/or changes to land cover, quality criteria requirements for site plans of 5,000 square feet or more of impervious surface and for major residential or commercial subdivisions are applicable.

In much of the northeastern United States, including Jefferson County, there are seasonal differences in how floods are caused. In the winter and early spring (February to April), major flooding has occurred as a result of heavy rainfall on dense snowpack throughout contributing watersheds, although the snowpack is generally moderate during most winters. Summer floods have occurred from intense rainfall on previously saturated soils. Summer thunderstorms deposit large quantities of rainfall over a short period of time that can result in flash flood events.

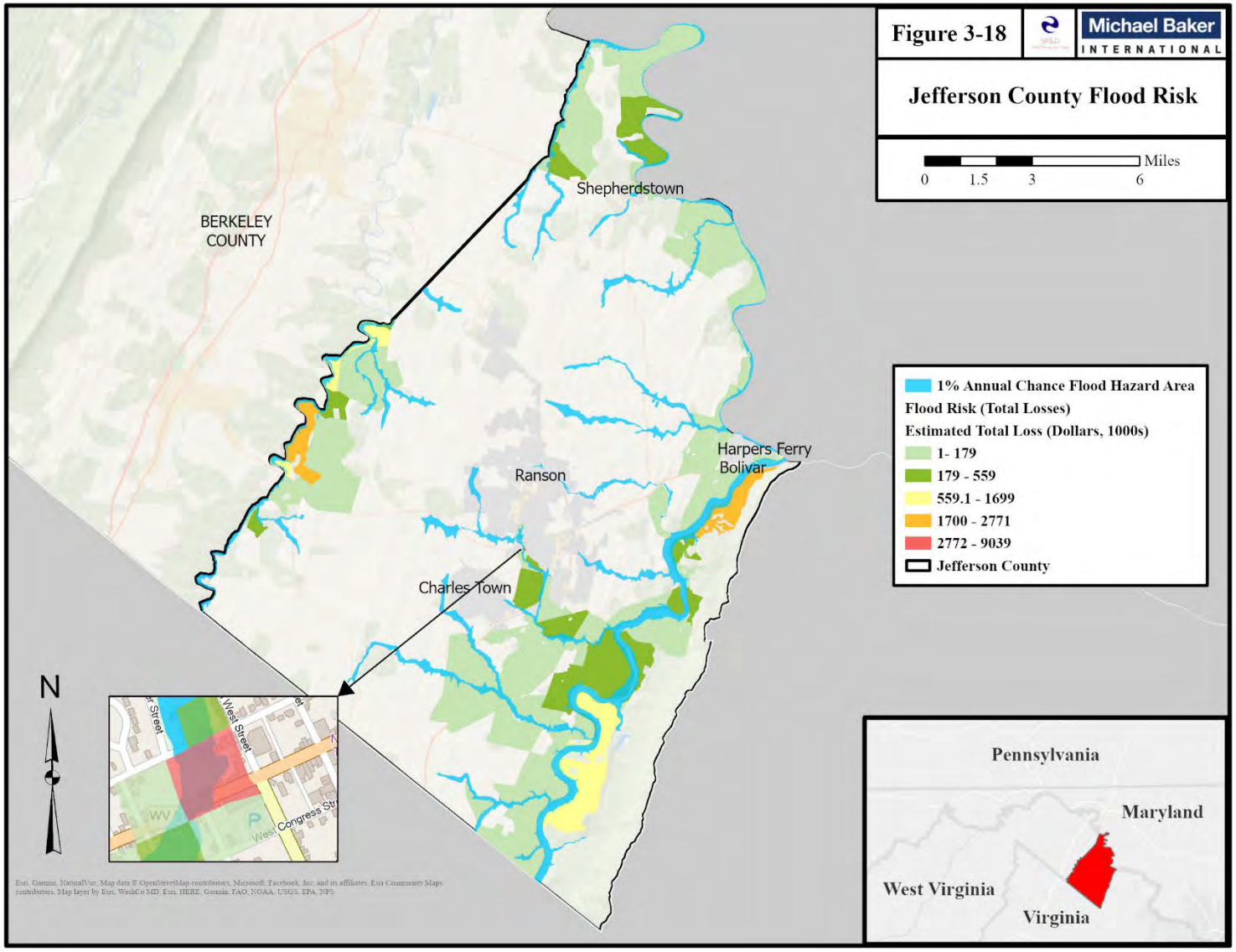
Flood effects can be volume or force related. Major floods along larger streams having wide floodplains tend to result in large-scale inundations. This causes widespread damage through soaking and silt deposits in homes, businesses, and industrial plants. In hilly regions where runoff paths are steep, flash floods may be prevalent. Flash floods are short in duration and usually occur in a somewhat localized area. In these floods, the velocity rather than the volume of water causes flood damage. Torrents of water can rush down minor hillside gullies at 30-50 miles per hour, carrying trees, debris, and rocks. These floods are often unpredictable and, particularly if they occur at night, can cause major panic and loss of life. Frozen surfaces can more than double normal runoff velocities, particularly in small drainage areas. This causes flash floods which can be compounded by ice and debris jams in channels and culverts. Also, obstructions within the floodplain such as bridges and undersized culverts can also increase flooding.

Although floods can cause damage to property and loss of life, floods are naturally occurring events that benefit riparian systems which have not been disrupted by human actions. Such benefits include groundwater recharge and the introduction of nutrient rich sediment improving soil fertility. However, the destruction of riparian buffers, changes to land use and land cover throughout a watershed, and the introduction of chemical or biological contaminants which often accompany human presence cause environmental harm when floods occur. Hazardous material facilities are potential sources of contamination during flood events. Other negative environmental impacts of flooding include water-borne diseases, heavy siltation, damage, or loss of crops, and drowning of both humans and animals.

According to Figure 4-18, one census block within Charles Town shows the highest risk in terms of total losses. Evitts Run's 1-percent-annual chance floodplain encompasses this area between West Liberty and West Washington streets. The next highest flood risk is near Harpers Ferry at the confluence of the Potomac River and Shenandoah River and continues on the east side of the Shenandoah River until the Blue Ridge Community. Another high-risk area is located on the western boarder of Jefferson and Berkeley county. This high-risk area is in the vicinity of Wide Horizon Boulevard to Hidden Hollow Road

and impacted by Opequon Creek. Flood mitigation measures in these high-risk areas along with other areas with projected loss should be considered.

Figure 4-18: Jefferson County Flood Risk



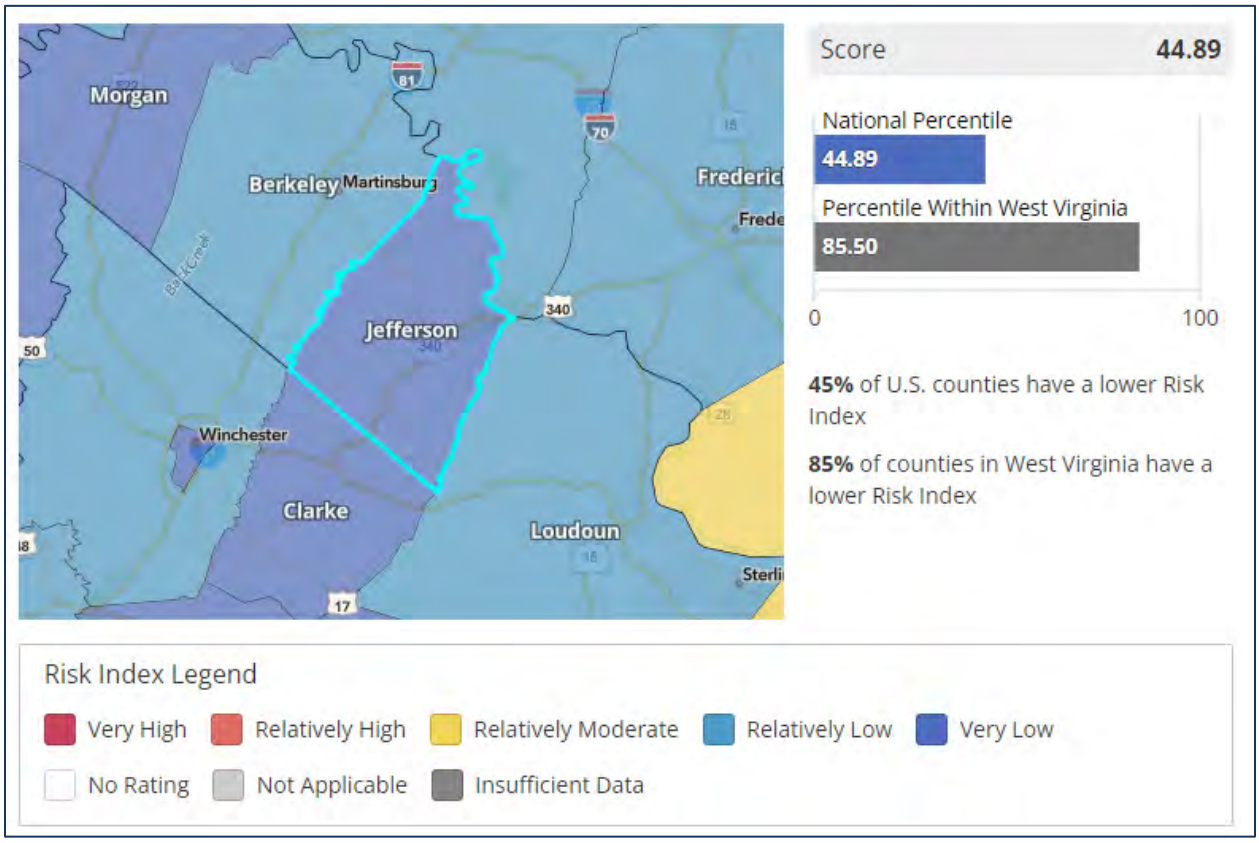
4.4.4.7. Vulnerability Assessment

Flooding can lead to property loss as well as to loss of life. Flooding damages structures, including homes and businesses, vehicles, and infrastructure, including roadways. People who are surrounded by flood waters may at some point require evacuation, placing their lives and the lives of rescuers in danger. Flooding can disrupt the operation of businesses and schools. Recovery from flood damage can be time consuming and costly.

According to FEMA, vulnerability is a description of which assets, including structures, systems, populations, and other assets as defined by the community, within locations identified to be hazard prone, are at risk from the effects of the identified hazard(s). As part of this plan update, the analysis of vulnerability to community assets was expanded. In addition, impacts from climate change, social vulnerability, and changes in land use have been included. Information has been integrated from FEMA's recently updated National Risk Index, which according to FEMA has changed the way risk is assessed.

Using data and analysis from FEMA's National Risk Index, Jefferson County's risk index is relatively low compared to other counties in the United States, in fact 45% of U.S. counties have a lower risk index than Jefferson County. The risk index rating for neighboring jurisdictions is relatively low for Berkeley County (West Virginia) and Loudoun County (Virginia), while Clarke County (Virginia) is very low.

Figure 4-19: Jefferson County Data and Analysis, FEMA's National Risk Index



The hazard type Risk Index score measures the relative risk of a community for a specific hazard type by comparing its hazard type Risk Index value with other communities at the same level. These scores are calculated using data for only a single hazard type and reflect a community's Expected Annual Loss (EAL) value, community risk factors, and the adjustment factor used to calculate the risk value. The composite Hazard Type Risk Index score for flood in Jefferson County is detailed in Table 4-20.

Table 4-20: Jefferson County Flood Hazard Type Risk Index Score

Hazard Type	Expected Annual Loss Value	Social Vulnerability	Community Resilience	CRF	Risk Value	Score
Flood	$378,074	Very Low	Relatively Moderate	1.04	$379,699	45.8

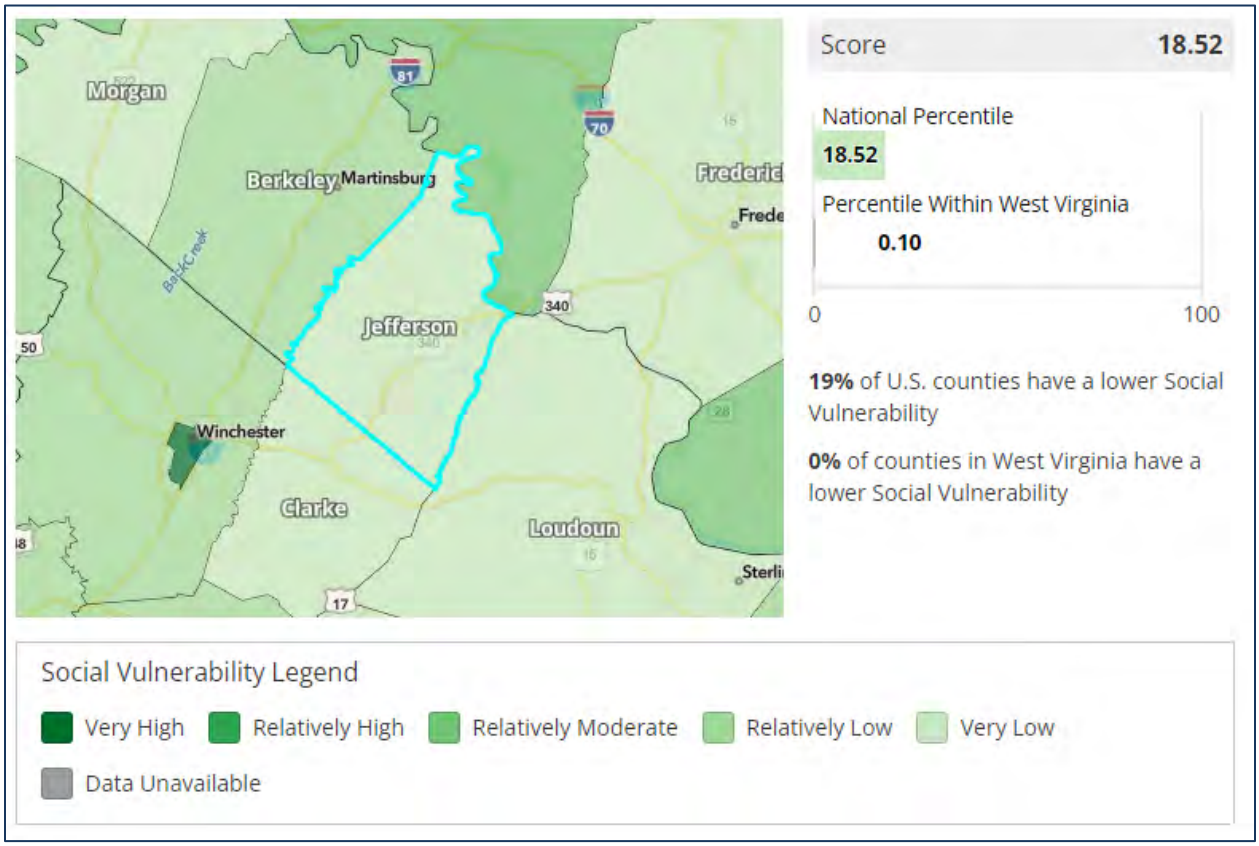
Jefferson County as an EAL value of $378,024 from flood impacts, is rated “very low” for social vulnerability, and is “relatively moderate” in terms of community resilience.

4.4.4.8. People

This section specifically focuses on how people are impacted by the flood hazard, including underserved communities and socially vulnerable populations. During a flood, people and first responders run the risk of sustaining injuries related to saving people and property as well as the possibility of drowning. In rare circumstances, floodwater can carry bacteria that can be harmful. One of the primary health-related flood concerns is power outages caused by flooding which impacts people who are reliant on power to run life-sustaining medical equipment; this is an example of a medically and socially vulnerable population.

Social Vulnerability for the Nation Risk Index (NRI) is measured using the Social Vulnerability Index (SVI) published by the Centers for Disease Control and Prevention (CDC). The SVI considers well-established indicators of social vulnerability, including socioeconomic status, household characteristics, racial & ethnic minority status, and housing type & transportation. According to the NRI, people, including underserved communities and socially vulnerable populations, in Jefferson County have a very low susceptibility to the adverse impacts of natural hazards when compared to the rest of the U.S. In comparison to neighboring jurisdictions, Loudoun County (Virginia) social vulnerability is very low as well, while Berkley County is relatively low.

Figure 4-20: Jefferson County Social Vulnerability



In addition, National Centers for Environmental Information (NCEI) provides death and injuries for flood and flash flood events in Jefferson County. The NCEI database reported no deaths or injuries due to flood and flash flood events in the County or its municipalities. However, according to NCEI reports for flood, drivers had to be rescued from their vehicles stalled in high water on Bloomery Road, which runs parallel to the Shenandoah River near the community Bloomery and Avon Bend Road, which also is parallel to the Shenandoah River, during the February 2003 flood event. A water rescue was required along the Berkeley/Jefferson County line when a man was stranded in a van on a water-covered bridge on Sulphur Springs Road. The Centers for Disease Control and Prevention report that over half of all flood-related drownings occur when a vehicle is driven into hazardous flood water (NWS, 2023). These drownings typically occur when people underestimate the force of flood waters.

4.4.4.9. Structures

The best way for communities to strengthen floodplain management is by reviewing current codes and ordinances and by strongly enforcing their floodplain codes on new developments to avoid worsening future flooding. Significant residential growth in the outlying rural townships can increase opportunities for flash flooding if floodplain development and stormwater management are not properly regulated. Numerous times since the January 1996 floods, localized rainstorms that went undetected by the National Weather Service created surface flooding, which forced evacuations in several floodplain communities.

Structures including facilities, lifelines and critical infrastructure were reviewed for vulnerability. In 2017, a Flood Risk Report (FRR) for the Conococheague – Opequon Watershed was developed. Unincorporated areas of Jefferson County, the Towns of Harpers Ferry and Shepherdstown, and the City of Ranson were included in this assessment. According to the FRR, The Conococheague-Opequon Watershed covers an area of 5,936 square miles and includes portions of Berkeley, Jefferson, and Morgan Counties in West Virginia. A community overview for Harpers Ferry, Shepherdstown, Ranson, and unincorporated areas of Jefferson County are provided in Table 4-21, below.

Table 4-21: Flood Risk Report (FRR) for the Conococheague Opequon Watershed Community Overview (FEMA FRR, 2017)

Community	Total Community Population	Percent of Population in TIEF	Total Community Land Area (sq mi)	Percent of Land Area in Watershed
Harpers Ferry	286	33	0.5	68
Ranson	4,440	<1	8.0	28
Shepherdstown	1,734	30	0.4	100
Jefferson County (unincorporated)	53,498	18	0.0	100
Berkeley County (unincorporated)	177,843	18	288.1	100
Morgan County (unincorporated)	28,159	35	219.2	68

Source: FEMA Flood Risk Report: Conococheague-Opequon Watershed, 02070004; Report Number 01; 1/31/2017

The FRR flood risk analysis incorporated results from the Total Exposure in Floodplain (TEIF) loss estimation tool and provides FEMA Average Annualized Loss (AAL) Study results for comparison; Table 4-21. The results indicate that the Town of Shepherdstown has the greatest loss ratio with 36%. The higher loss ration percentage for the Town is probable since 30% of the population is located within TEIF. Loss ratios for the unincorporated areas of Jefferson County is greater than Berkley or Morgan County even though the unincorporated areas Morgan County has a higher percentage of population in the TEIF.

Table 4-22: Conococheague-Opequon Watershed: Comparison of Estimated Potential Losses for Structures in the SFHA (FEMA FRR, 2017)				
Community	**Total Estimated Value**	**Total Exposure in Floodplain (TEIF)**		**Average Annualized Loss (AAL)***
		Dollar Losses[1,2]	**Loss Ratio[3]**	**Dollar Losses[1]**
Harpers Ferry	$19,400,000	$4,980,000	26%	$170,000
Ranson	$0	$18,260,000	0%	$180,000
Shepherdstown	$46,880,000	$16,860,000	36%	$20,000
Jefferson County (unincorporated)	$1,012,440,000	$226,850,000	22%	$2,040,000
Berkeley County (unincorporated)	$2,713,190,000	$256,440,000	9%	$5,660,000
Morgan County (unincorporated)	$908,280,000	$111,040,000	12%	$2,040,000

Source: FEMA Flood Risk Report: Conococheague-Opequon Watershed, 02070004; Report Number 01; 1/31/2017

Source: TEIF and AAL results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

1 Losses shown are rounded to nearest $10,000.

2 Estimated Value = Asset Replacement Value of all buildings for the community within the extent of the countywide floodplains. 3 Loss ratio = Dollar Losses / Estimated Value. Loss Ratios reflect community TEIF values and are rounded to the nearest integer percent.

*The AAL indicates the estimated economic loss value to property in any single year. It is generated by calculating losses for the 0.2%, 1%, 2%, 5% and 10% annual chance flood events and creating an average of those values. However, in many communities, the AAL inaccurately reports economic losses, and therefore should be used only to compare potential losses between states and counties. TEIF aims to address these inaccuracies by providing a total potential economic loss value to property, for all communities with development within the special flood hazard area. The total economic loss value can be used to understand the degree of risk in each community relative to others.

The 2022 West Virginia Statewide Risk Assessment estimates that approximately 734 buildings in Jefferson County are located within the 1% annual chance flood hazard area. The assessment estimates that the building dollar exposure to be approximately $118,388,409. The following tables summarize the HAZUS data.

Table 4-23: Building Dollar Exposure: Residential versus Non-Residential								
Community	Residential		Commercial Non-Residential		Other Non-Residential		Total Building Value	
	#	Value ($)	#	Value ($)	#	Value ($)	#	Value ($)
Unincorporated	505	$60,022K	14	$4,889K	7	$5,349K	526	$70,260K
Bolivar	3	$251K	0	$0K	1	$4,000K	4	$4,251K
Charles Town	23	$2,073K	4	$7,893K	0	$0K	27	$9,966K
Harpers Ferry	6	$722K	25	$6,243K	0	$0K	31	$6,965K
Ranson	3	$251K	0	$0K	1	$4,000K	4	$4,251K
Shepherdstown	23	$2,073K	4	$7,893K	0	$0K	27	$9,966K
Total	**654**	**$76,146K**	**67**	**$27,999K**	**13**	**$14,243K**	**734**	**$118,388K**

Source: Region 9 Tabular Community-Level Report Link: data.wvgis.wvu.edu - /pub/RA/State/CL/Community_Asset/

No essential facilities in Jefferson County were located within the 1-percent-annual or 0.2-pecent annual chance flood hazard areas. Essential facilities include police stations, fire stations, 911 center, schools, hospital, and nursing homes. Community assets for Jefferson County include government facilities (federal, state, local), emergency medical services (EMS), religious organizations, utilities, postsecondary educational facilities, or other buildings of significance that contribute to the built environment of community. A total of thirteen (13) community assets were located within the 1-percent-annual chance flood hazard area. Table 4-24 detail types of community assets at risk.

Table 4-24: Community Assets Flood Vulnerability for Jefferson County & Municipalities							
Community	Religious Org.	Govt. Bldg.	Utility	Education	EMS	Other	Total
Unincorporated	2	2	1	0	0	0	5
Bolivar	0	0	1	0	0	0	1
Charles Town	0	0	1	0	0	0	1
Harpers Ferry	0	1	0	0	0	0	1
Ranson	1	0	0	0	0	0	1
Shepherdstown	0	0	1	3	0	0	4
Jefferson County Total	3	3	4	3	0	0	13

Source: Region 9 Tabular Community-Level Report Link: data.wvgis.wvu.edu - /pub/RA/State/CL/Community_Asset/

Community assets most vulnerable to the 1-percent-annual-chance flood event are shown in Table 4-25. The flood depth grid and building damage estimates quantify the degree of risk at which facilities may be subject to the greatest flood damage.

Table 4-25: Community Assets Flood Vulnerability for Jefferson County & Municipalities					
Community	**Facility Name**	**Facility Type**	**Flood Tool Link**	**Flood Depth**	**Building Damage Percent**
Harpers Ferry	National Park Service Information Center	**Government**	FT	31.9	78%
Unincorporated Jefferson County	Millville Pentecostal Church	**Religious Institution**	FT	7.1	13%
Shepherdstown	Shepherd University White Hall	**Education**	FT	2.0	5%
Shepherdstown	Shepherd University McMurran and Reynolds Hall	**Education**	FT	2.0	5%

Source: Region 9 Tabular Community-Level Report Link: data.wvgis.wvu.edu - /pub/RA/State/CL/Community_Asset/

The WV GIS Technical Center has also performed in depth analysis of critical infrastructure, flood depth, building-level risk, and much more on the WV Flood Tool, located at: www.mapwv.gov/flood/map/. Hazus reports found in Appendix E provide links directly to different aspects of the flood tool.

4.4.4.10. Systems

Systems in this section refer to networks and capabilities. Floods often disrupt many systems including power, sewer, water, communications, and road access. Lacking these, it is difficult to continue critical services to the community. Damage to property, facilities, and infrastructure can range from minimal to total loss. The cost of recovery from floods can vary for everyone. Homeowners and businesses can claim insurance benefits if they have them but may not be able to continue working due to the flood-related damages within the community or of their own property.

According to the National Centers for Environmental Information narratives for flood and flash flood events impacted roadways and caused power outages. Below are examples of events that caused roadway closures and power outages.

- January 1996 - Across the entire region, numerous creeks and streams were out of their banks well into Friday morning, closing roads, damaging homes, and businesses, and causing mud and debris slides.
- September 1997 - A thin band of thunderstorms, laden with tropical moisture, dumped between 5 and 8 inches of rain in a small area of northern Jefferson County. Though no fatalities or injuries ((were reported, several local roads were closed.
- January 1998 - In Jefferson County, several secondary roads were closed due to high water, and many creeks were at or just above bankful. A portion of federal highway 340 was closed briefly just west of Harpers Ferry. Rainfall totals in the affected area ranged from 2 to 3 inches.
- February 1998 - Moderate rain, falling on top of 3 to 6 inches of snow, produced areas of flooding across the eastern panhandle late on the 4th and continuing through the afternoon of the 5th. In Jefferson County, 9 secondary roads closed.

- March 1998 - A combination of 22 primary and secondary roads were closed in Berkeley and Jefferson Cos, including state highways 51, 9, and 7 (all in Jefferson County).
- June 2000 - In Jefferson County, two trees were downed north of Charles Town where 2.85 inches of rain was recorded. Up to 4 feet of water covered roads in Ranson and several county roads were also flooded.
- June 2003 - In Jefferson County, water flowed over Leetown Road in Kearneysville.
- May 2003 - In Jefferson County, Route 230 was closed by high water. Roads were also flooded in the Ranson and Millville areas. In addition, flooding was reported along Route 340 near the confluence of the Shenandoah and Potomac rivers near Harpers Ferry.
- March 2007 - The South Branch of the Potomac River at Shepherdstown crested at 15 feet after midnight on March 2nd. A few nearby roads were flooded as a result of the heavy rain and river flooding.
- April 2007 - Heavy rain spread north across the region early April 15th, causing flooding by the afternoon and evening. Winds also increased in the wake of the low, downing trees and power lines across the eastern pan handle.

Utilities were assessed as part of the vulnerability analysis of systems. A total of four (4) utilities were located within the 1-percent-annual chance flood hazard area. The flood depth grid and building damage estimates quantify the degree of risk at which facilities may be subject to the greatest flood damage.

Table 4-26: Community Assets Flood Vulnerability for Jefferson County & Municipalities

Community	Facility Name	Facility Type	Flood Tool Link	Flood Depth	Building Damage Percent
Bolivar	Harpers Ferry Bolivar PSD Wastewater Treatment Plant	**Utilities**	FT	15.5	Not provided
Shepherdstown	Shepherd's Mill	**Utilities**	FT	12.3	55%
Shepherdstown	Shepherdstown Water Works Plant	**Utilities**	FT	2.9	16%
Charles Town	City of Charles Town Wastewater Treatment Plant	**Utilities**	FT	2.1	12%
Unincorporated Jefferson County	Harpers Ferry Water Works Treatment Facility	**Utilities**	FT	0.0	0%

4.4.4.11. Natural, Historic and Cultural Resources

The National Register of Historic Places was used to assess the vulnerability of natural, historic, and cultural resources. For more complete information about the historical designations, refer to the National Register WV Listings. Jefferson County is ranked fourth in the State as having the most historical buildings in the high-risk floodplain. Most of these historical buildings are in the towns of Shepherdstown and Harpers Ferry. The unincorporated area of Jefferson County is ranked first among all unincorporated areas in the State of West Virginia with 26 historical buildings.

Table 4-27: Historical Community Assets Flood Vulnerability for Jefferson County & Municipalities				
Community	**NR Bldg. Sites**	**Bldg. in Historic District (older than 1930)**	**Total Historic Bldgs.**	**# NR Areas /Districts in 1% Floodplain**
Unincorporated	3	23	26	21
Bolivar	0	3	3	3
Charles Town	0	14	14	2
Harpers Ferry	1	28	29	4
Ranson	0	0	0	1
Shepherdstown	1	50	51	2
Jefferson County Total	5	118	123	23

Source: Region 9 Tabular Community-Level Report Link: data.wvgis.wvu.edu - /pub/RA/State/CL/Community_Asset/

4.4.4.12. Community Activities

Activities that have value to the community could potentially be impacted by flood events. When these activities are delayed or cancelled due to flooding, the economy of the community is affected. Numerous activities are scheduled within Jefferson County and its municipalities. Below are community activities that occur throughout the year or annually.

- Jefferson County Fair – July and August at Jefferson County Fairgrounds & weekly farm markets
- Historical Walking Tours of Harpers Ferry, WV – Available All Year (Note four (4) of the National Register Areas within Harpers Ferry are located in the 1-percent-annual chance floodplain.)
- Hollywood Casino Horse Races – Reoccurring – Located in Charles Town
- September 22 - 24 - Mountain Heritage Arts & Craft Festival at Jefferson County Fairgrounds
- October 7 - Freedoms Run (Note: held in in Harpers Ferry & Shepherdstown.)

Impacts to community events would be dependent upon the event type and location.

Figure 4-21: Special Flood Hazard Area – Town of Bolivar Assets and 1% Annual Chance Flood Hazard Area

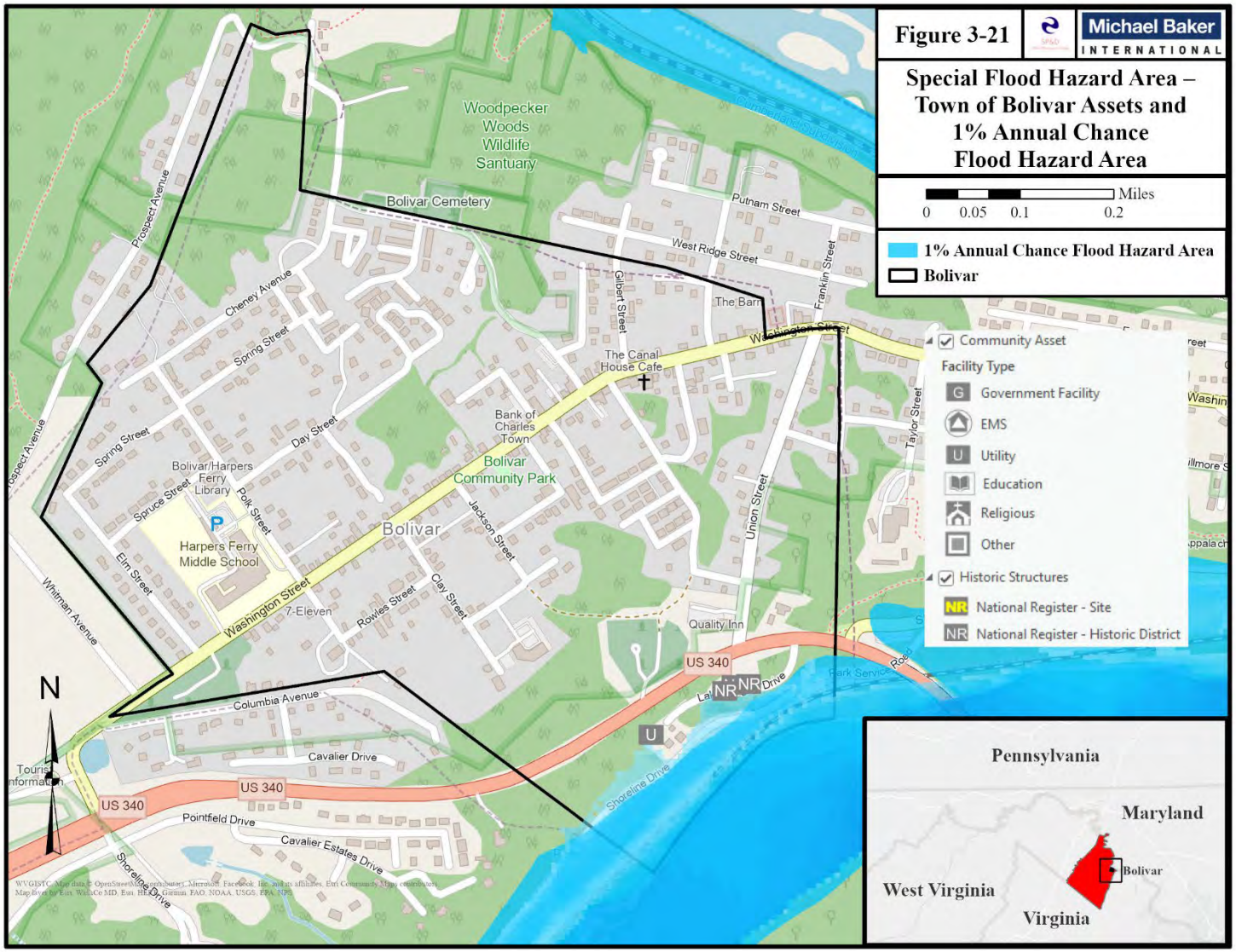


Figure 4-22: Special Food Hazard Area, City of Charles Town Assets and 1% Annual Chance Flood Hazard Area

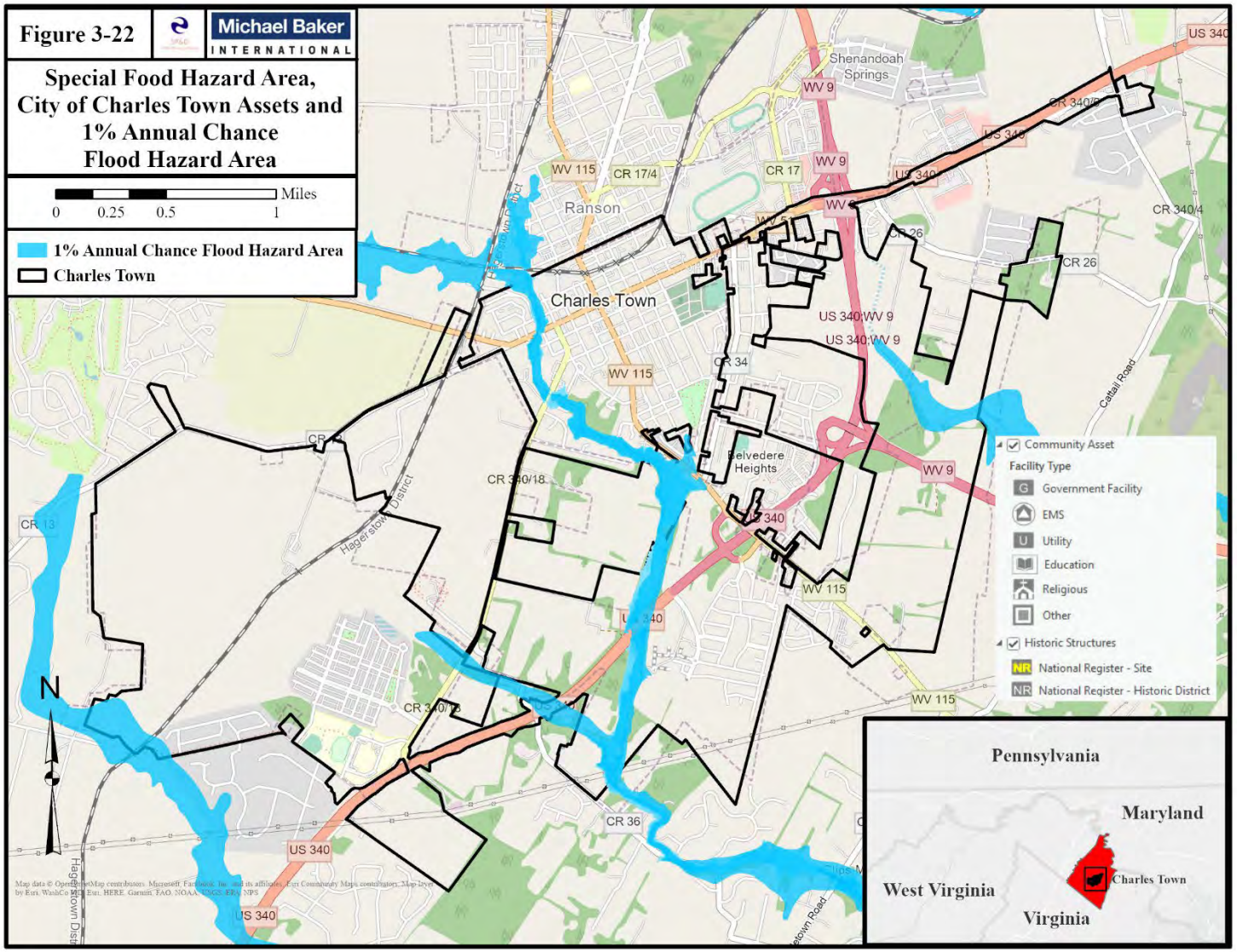


Figure +: Special Food Hazard Area, Town of Harpers Ferry Assets and 1% Annual Chance Flood Hazard Area

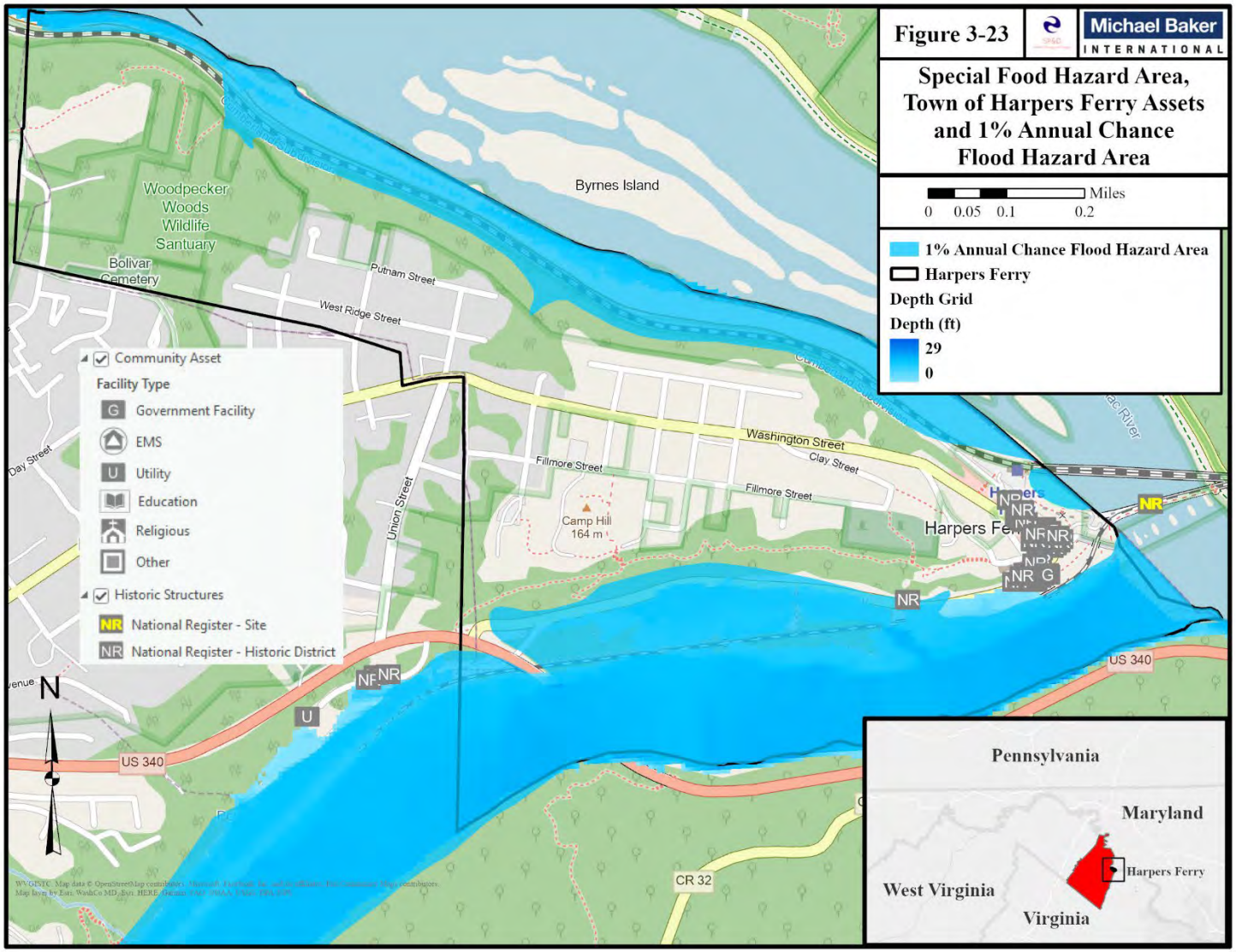


Figure 4-23: Special Food Hazard Area, Town of Ranson Assets and 1% Annual Chance Flood Hazard Area

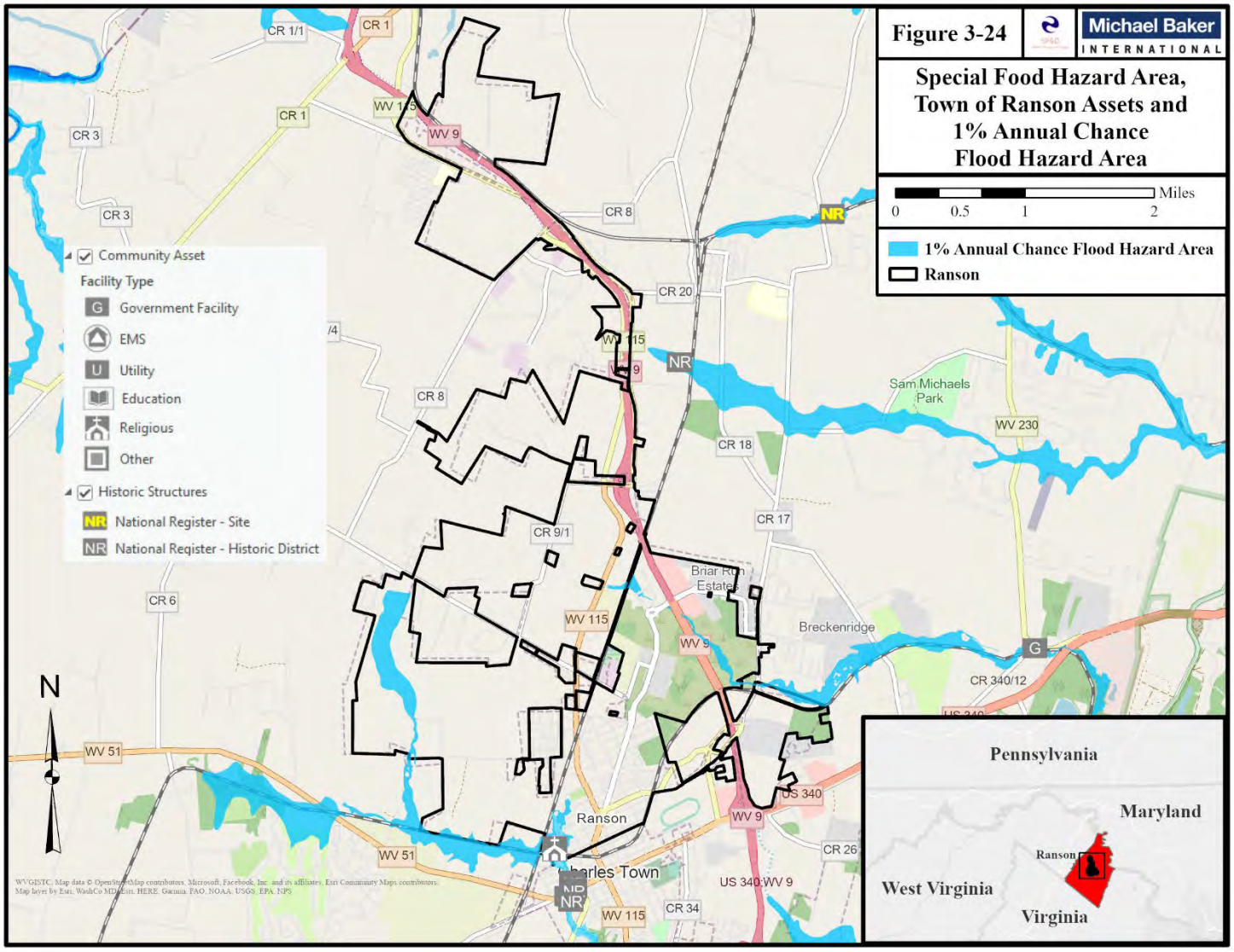
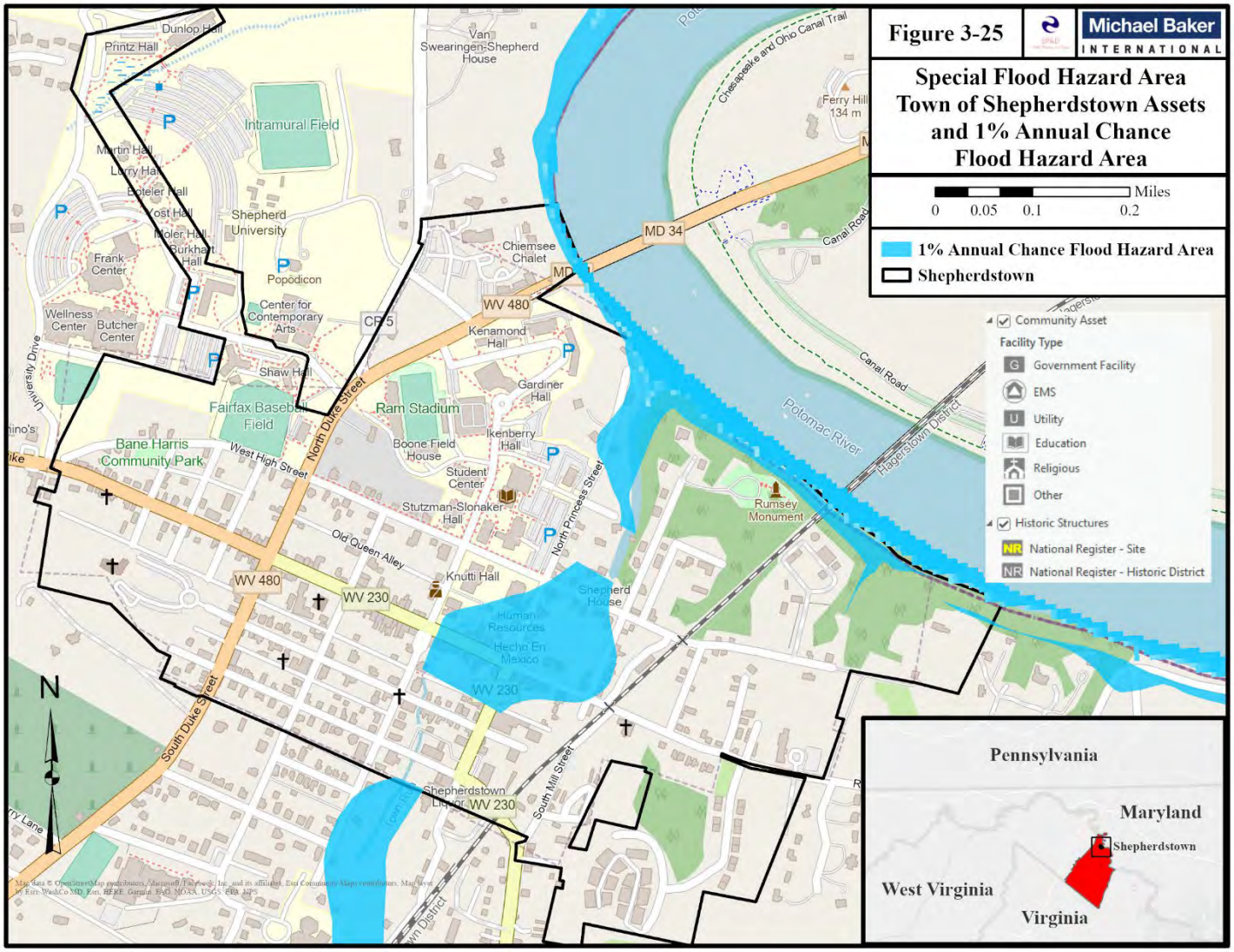


Figure 4-24: Special Flood Hazard Area Town of Shepherdstown Assets and 1% Annual Chance Flood Hazard Area



4.4.5. Landslides and Land Subsidence

Landslides are one of the most common natural hazards in West Virginia, having the potential to damage buildings and roads, disrupt utilities, and cause injuries and deaths (West Virginia Emergency Management Division, 2018).

A landslide consists of mass movements of soil and/or rock down a slope due to gravity and usually water. Slips, slumps, rock falls, slides, flows, and creep are terms used by geologists to identify specific mechanisms and velocities for mass movement. Most slopes in West Virginia are vulnerable, especially after heavy rain or snow melt; the telltale signs are hummocky surfaces, leaning and bent trees or utility poles, many seeps and sag ponds (water-filled depressions), and old or recent landslides where horizontal and vertical movement has occurred (WVGS, 2023). The West Virginia GIS Technical Center identifies five different types of landslides, all of which are capable of happening in the state:

- Slide – Translational or rotational movement of material downslope. Slides travel at a range of rates, displacing forests and infrastructure as they move. Quite common in West Virginia, large slides are readily identified using LiDAR data.
- Debris Flow – Failures saturated with water, where transported material moves downslope as a slurry of rock, soil, and debris. Flows may move quickly and cause loss of property and life far downslope from their source. Debris flows are common in mountainous areas of West Virginia but can be difficult to map using LiDAR data.
- Lateral Spread – Lateral movement of rock blocks across relatively shallow slopes. Spreads move slowly compared to most other landslides.
- Fall – Free-fall of material from a steep slope or cliff face. Falls often occur with little warning. Most falls are very difficult to map using LiDAR data because they are either promptly mitigated or consist of rock fragments too small to be identified.
- Undetermined Slope Failure – A contingency category consisting of slope failures in which available data is insufficient to assign failure material or mode (WV GIS Technical Center 2021). Land Subsidence.

Many factors cause landslides and rockfalls, but the following are prevalent in the State of West Virginia: water changes, seismic activity, mining, and human activity.

- Water – Intense rainfall, changes in groundwater level, and water level changes along coastlines, earthen dams, and the banks of lakes, reservoirs, and rivers are the primary triggers of landslides.
- Seismic Activity – Earthquakes in landslide-prone areas greatly increase the likelihood that landslides will occur, either due to ground shaking alone or shaking-caused dilation of soil materials.

- Mining – Huge amounts of vibrations, including blasting, reach yards under the soil surface, which poses a greater threat to areas that are already at risk for sliding.
- Human Activity – Landslides may result directly or indirectly from human activities. Construction activity that undercuts or overloads dangerous slopes or that redirects the flow of surface or34 groundwater can trigger slope failures (USGS 2023).

Land subsidence is a gradual settling or sudden sinking of the earth's surface due to removal and displacement of subsurface earth materials. Subsidence is one of the most diverse forms of ground failure, ranging from small or local collapses to broad regional lowering of the earth's surface. The principal causes are mostly due to human activities and include but are not limited to:

- Aquifer-system compaction associated with groundwater withdrawals
- Drainage of organic soils
- Fracking and underground mining
- Earthquakes and erosion
- Natural compaction or collapse
- Expansive soils
- Mining activities (USGS 2023)
- Reduces the ability to store water in an aquifer
- Partially or completely submerges land ♣ Collapses water well casings
- Disrupts collector drains and irrigation ditches
- Alters the flow of creeks and bayous, which may increase the frequency and severity of flooding
- Damages roadways, bridges, building foundations, and other infrastructure

Consequences of land subsidence include:

- Reduces the ability to store water in an aquifer
- Partially or completely submerges land
- Collapses water well casings
- Disrupts collector drains and irrigation ditches
- Alters the flow of creeks and bayous, which may increase the frequency and severity of flooding
- Damages roadways, bridges, building foundations, and other infrastructure

Land subsidence occurs on karst terrain, which is generally underlain by limestone or dolomite, in which the topography is formed chiefly by the dissolving of rock which may be characterized by sinkholes, sinking streams, closed depressions, subterranean drainage, and caves (USGS 2023).

4.4.5.1. Location and Extent

The Eastern Panhandle faces some risk of minor landslides, in large part due to its mountainous terrain, including North Mountain and Cacapon Mountain. Jefferson County encompass a variety of susceptibility, but at the local level only minor landslides in the form of falling rock and/or mud slides have occurred to date. No serious injury, death or property damage attributed to landslides has been identified in the region. Most of these landslides occur along road and highway cuts through the mountains. Figure 4-25 shows general landslide susceptibility and incidence rate throughout the region. According to the United States Geological Survey (USGS), most of West Virginia is listed as having high percentages of landslide incidents. Specifically, the southeastern corner of Jefferson County has the highest landslide risk. The remainder of the county is characterized as either a medium or low landslide risk. The communities of Harpers Ferry, Bolivar, Charles Town, and Ranson fall in the medium landslide risk category, whereas Shepherdstown is considered a low landslide risk area. (USGS, 2016). Figure 4-26 identifies landslide hazard areas throughout the region.

Figure 4-25: Landslide Incidence and Susceptibility near the Eastern Panhandle Region (USGS, 2016)

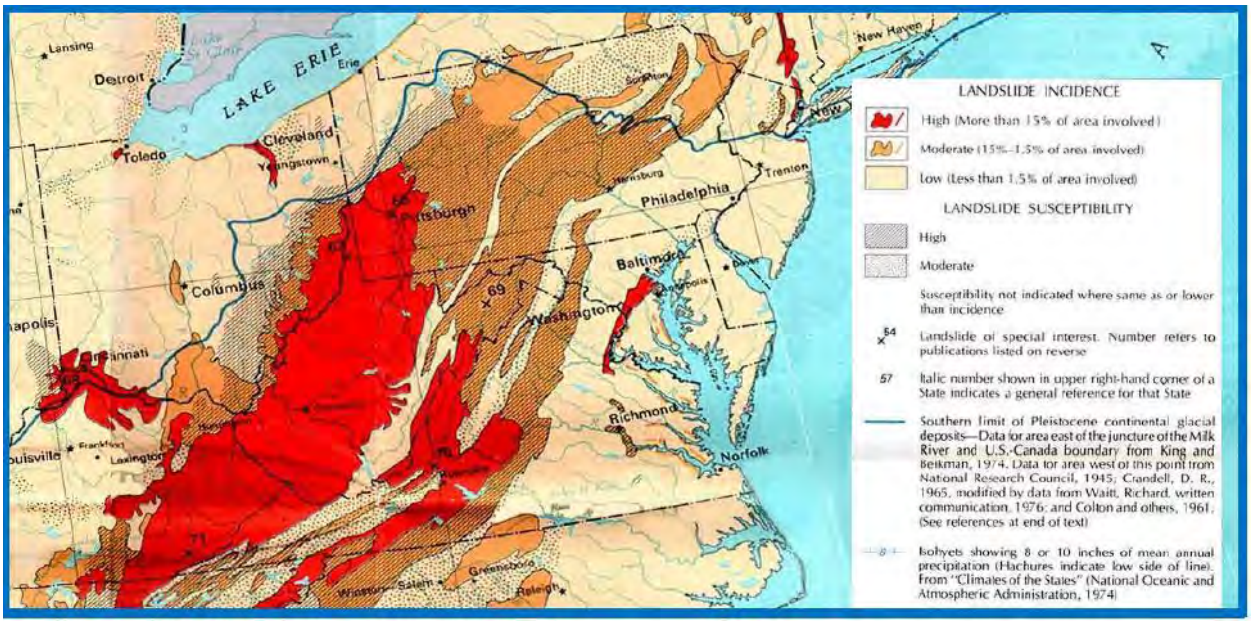
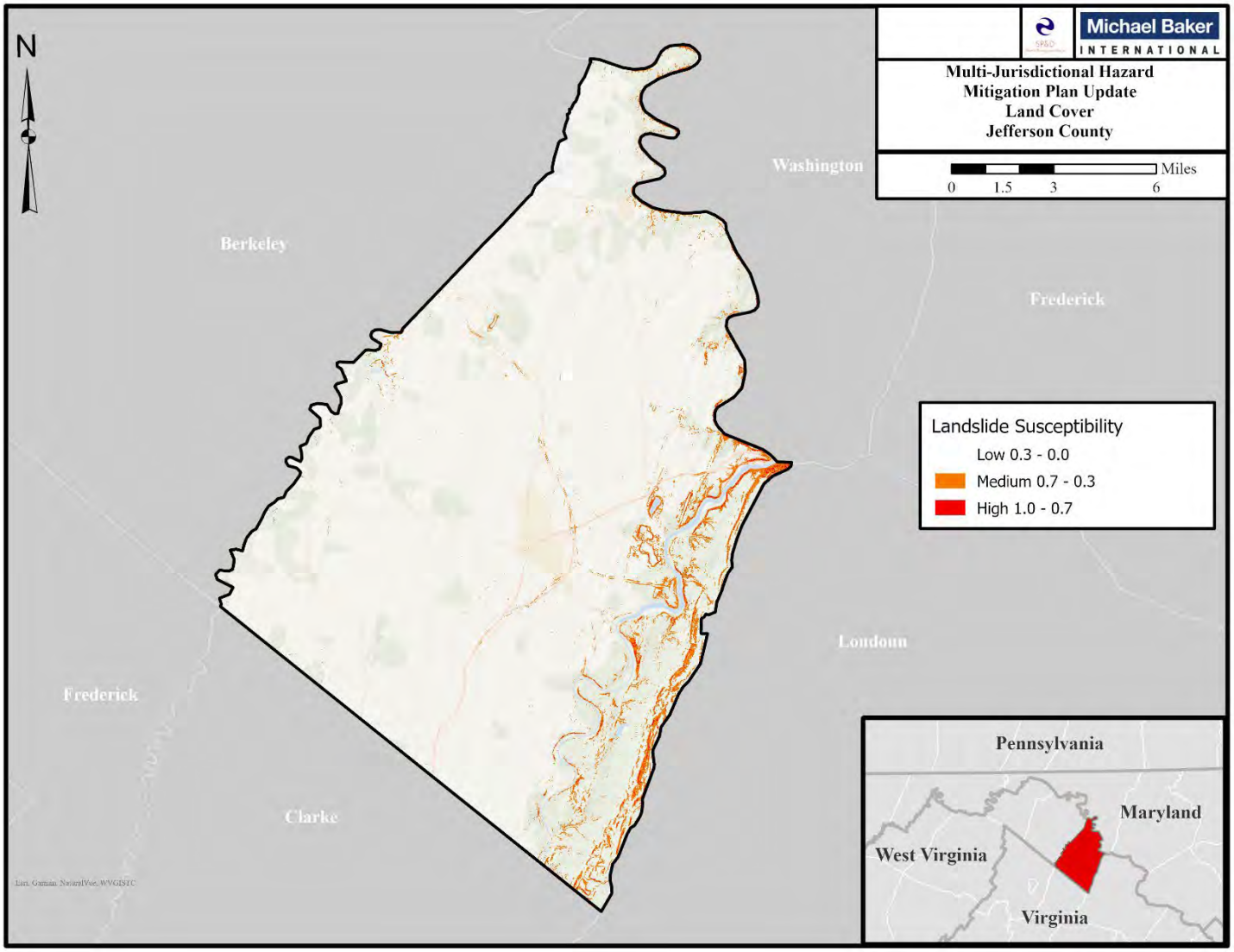


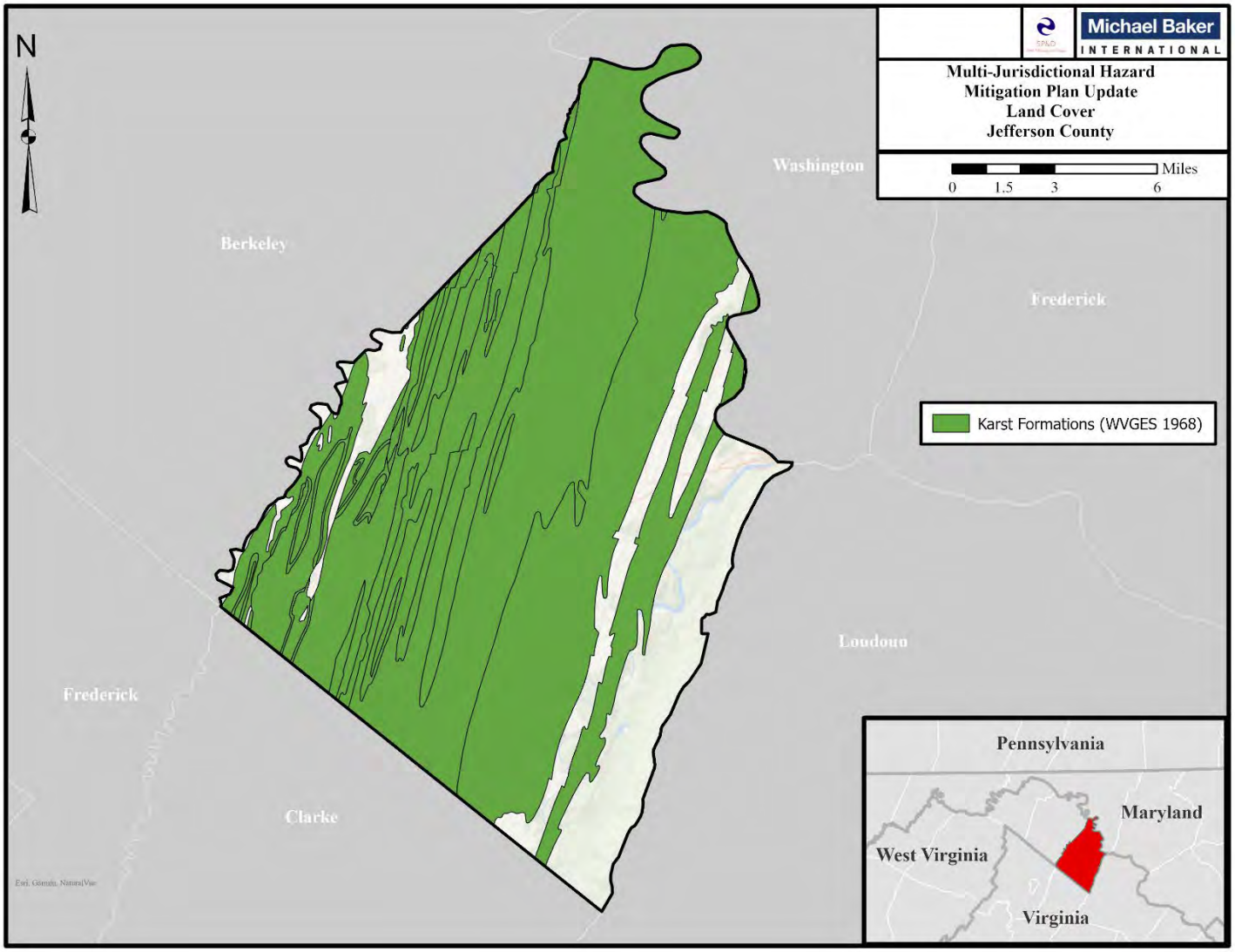
Figure 4-26: Landslide Hazard Susceptibility, Jefferson County



Land subsidence occurs in areas of abandoned mines and karst area underlain by carbonate rock. Karst is a terrain, generally underlain by limestone or dolomite, in which the topography is formed chiefly by the dissolving of rock and which may be characterized by sinkholes, sinking streams, closed depressions, subterranean drainage, and caves (WVGS, 2023). These formations often contain several underground caves that could collapse, causing subsidence on top of the ground. The County of Jefferson has the highest percentage (79.4 percent) of land in the karst subsidence area. Additionally, some portions of the region have also been undermined which could result in subsidence as well. As a result, the entire region appears susceptible to subsidence, but it should be noted that the type of subsidence could vary. Figure 4-27 depicts these areas, with the green representing carbonate rocks outcrops.

Human activity can often be the cause of a subsidence area. Leaking water pipes or structures that convey stormwater runoff may also result in areas of subsidence as the water dissolves substantial amounts of rock over time. In some cases, construction, land grading, or earth-moving activities that cause changes in stormwater flow can trigger subsidence events. Slow subsidence is typically caused by consolidation in areas in which the soil stresses increase materially. Slow developing regional subsidence is often the result of excessive removal of groundwater, or petroleum that increases the effective stresses in subsurface soils. Slow developing, site-specific subsidence is often the result of construction structures or facilities over uncontrolled fills, including soils dumped loosely at convenient dumping locations, leveled deposits of mine spoil, highway construction spoil, head-of-hollow fills, covered sanitary landfills, etc. (State of West Virginia, 2018).

Figure 4-27: Karst Formations, Jefferson County



4.4.5.2. Range of Magnitude

Landslide

Landslide velocity can vary from rapid to slow, and the amount of material moving in a landslide can range from a relatively small amount to a large amount. Landslides can include falling, sliding, or flowing of rocks and soil or a combination of these different types of motion.

The impact of landslides on the environment depends on the size and specific location of the event. In general, impacts include:

- Changes to topography
- Damage or destruction of vegetation
- Potential diversion or blockage of water in the vicinity of streams, rivers, etc.
- Increased sediment runoff both during and after event

Landslides can have potentially devastating consequences in localized areas. Landslides cause damage to transportation routes, utilities, and buildings and create travel delays and other side effects. Structures or infrastructure built on susceptible land will likely collapse as their footings slide downhill. Structures below the landslide can be crushed. Landslides next to roads and highways have the potential to fall on and damage vehicles or cause crashes. Most West Virginia landslides are moderate to slow moving and damage things rather than people.

Land Subsidence

No two subsidence areas or sinkholes are exactly alike. Variations in size and shape, time period under which they occur (i.e., gradually or abruptly), and their proximity to development ultimately determines the magnitude of damage incurred. Potential damage due to landslides or subsidence in the region is mostly limited to roadway closures and/or the possibility of highway accidents due to debris deposited on the roadway. The threat of landslides is greatest along high-volume traffic areas, especially where the road travels through a cut in the topography. Other problems related to subsidence include the disruption of utility services and damages to private and public property including buildings, and underground infrastructure. If long-term subsidence or sinkhole formation is not recognized and mitigation measures are not implemented, fractures or complete collapse of building foundations and roadways may result. If mitigation measures are not taken, the cost to fill in and stabilize sinkholes can be significant although sinkholes are limited in extent. A worst-case scenario event for planning purposes would likely involve a U.S. Route traversing a higher risk area. Crushed vehicles, stranded motorists, economic impacts due to disruptions in freight movement, as well as the cost to clear debris would result from this scenario.

4.4.5.3. Past Occurrence

Landslides

Landslides have been known to occur in West Virginia and adjoining states since 1850, but the damage caused by landslides has become increasingly expensive as development encroaches more and more on the area's hillsides. A large portion of Jefferson County's topography is that of mountainous and steep.

According to the United States Geological Survey (USGS), most of West Virginia is listed as having high percentages of landslide incidents. Specifically, the southeastern corner of Jefferson County has the highest landslide risk. The remainder of the county is characterized as either a medium or low landslide risk. The communities of Harpers Ferry, Bolivar, Charles Town, and Ranson fall in the medium landslide risk category, whereas Shepherdstown is considered a low landslide risk area.

In recent years, there have been problems with several rockslides along the area of Route 340 across from Harpers Ferry, just before the Virginia State line.

Land Subsidence

There have been ambiguous and very limited historical reports of land subsidence activity in Jefferson County. Extensive research indicates that there have been unspecified limited land subsidence events in the county since the county adopted this plan originally in 2003.

During committee meetings members shared their experiences with recurrent and recent land subsidence events. The table below outlines the event date, if available, what happened, and how it could possibly be avoided going forward.

The Jefferson County Development Authority (JCDA) shows property with sinkholes. It's hard to find large properties without them. Although the JCDA does not keep a record of sinkholes, they do find them on most of the properties in the county.

Future Occurrence

Since the exact number of previous landslides over a definite time interval is not known, it is not possible to determine a quantitative probability of future occurrence for landslides in the region. Historical evidence indicates significant landslide and subsidence events are unlikely to occur in the region. However, mismanaged intense development in steeply sloped areas could increase their frequency of landslide occurrence. Building and road construction are contributing development factors to landslides as they can often undermine or steep otherwise stable soil. The West Virginia Statewide Standard Hazard Mitigation Plan (2018) recommends that the WV Department of Transportation (WVDOT) be involved in determining areas where roads experience sinkholes to improve on incidence reporting. Increased rainfall has also been shown to increase occurrences of landslide and land subsidence events.

Although subsidence events will continue to be a possibility in West Virginia, the probability of an occurrence is difficult to predict due to the low number of recorded previous events. Future development

and mining activities in the state can lead to a higher probability of subsidence occurring in the hazard area. Periods of drought and flooding are likely to increase in frequently in severity. Impacts from drought and flood events may exacerbate the likelihood of a subsidence event due to soil expansion and contraction. As drought levels increase, the need to pump water from aquifers also increases, which increase the likelihood of subsidence (Water Education Foundation, 2023).

Vulnerability Assessment

Earthen disturbances such as landslides and land subsidence can result in the disruption of roads, water, sewer, gas, electric and phone lines, as well as serious damage to public and private property. The loss of life likely to happen in such an occurrence would be a major concern, particularly for those areas where multi-family construction has taken place. While most of the development in the Eastern Panhandle is not particularly vulnerable to landslides, any landslide events that do occur in the region would take place in steeply sloped areas. In addition, conditions that may exacerbate or mitigate the severity and effects of landslides include erosion, unstable slopes, earthquakes, increase of weight of slopes, hydrologic factors, and human activity. Human activities are responsible for initiating or intensifying certain conditions where otherwise there would have been little or no risk. Activities that increase vulnerability by triggering landslides include:

- Excavations and developments in unstable slope materials
- Haphazard construction or improper use of pipelines
- Disruption of surface or subsurface drainage (streams and springs) e.g. by filling
- Overuse of fill materials on slopes, particularly at the heads of existing slide masses
- Removal of materials at the bases of slopes
- Vibrations from heavy traffic, blasting, and driving piles near unstable slopes

Additionally, increased deforestation and soil disturbances caused by development on sloped areas may further increase these risks. As timbering and development of sloped land continue, the risk of significant landslides increases.

The WVU GIS Technical Center released a landslide risk assessment in 2021 for Jefferson County profiling high and medium risk road segments and structure/parcels. The landslide risk assessment is designed to be updated as characteristics of the area, roads and structures change, and updates and further mapping can be found on the WV Landslide Tool.

Population

Generally, a landslide event would be an isolated incidence and impact the populations within the immediate area of the incident. Populations downslope of a landslide hazard area are particularly vulnerable to this hazard. Health threats from landslides include: 1) trauma caused by rapidly moving water and debris; 2) broken electrical, water, gas and sewage lines that can lead to injury or illness; and 3) disrupted roadways that can endanger motorists and disrupt transport and access to health care (CDC 2023). To understand the risk to populations residing in high landslide susceptibility areas, a spatial

analysis was conducted using the 2020 U.S. Census data. Table 4-28 exhibits the percent population located in the high susceptibility areas and percent population located in highly vulnerable areas.

Table 4-28: Population Located in Highly Susceptibility/Vulnerable Landslide Areas

Total County Population	Highly Susceptibility Population	% Total Population	High Vulnerable Population	% Highly Vulnerable Population
56,922	226	0.40%	0	0.01%

Land Subsidence also has the potential to impact human health and life of residents and responders, structures, infrastructure, and natural resources. Based on the analysis, an estimated 45,663 Jefferson County residents are located in the subsidence karst hazard area, and 5.2 percent are highly vulnerable. Table 4-29 exhibits the percent population located in the these high susceptibility areas.

Table 4-29: Population Located in High Susceptibility Land Subsidence Areas

Total Population Located in the Subsidence Karst Hazard Area	Highly Vulnerable Population Located in the Subsidence Karst Hazard Area	% Highly Vulnerable Population Located in the Subsidence Karst Hazard Area
45,663	2,389	5.20%

It is anticipated that any new development in the subsidence hazard areas would expose the population and structures to the subsidence hazard.

Structures and Systems

Table 4-30 summarizes the number and replacement cost value of state assets located in the subsidence/karst hazard area. The spatial analysis for the subsidence / karst hazard areas determined there are 13 state facilities located in the subsidence karst hazard area of Jefferson County. Jefferson County has the highest replacement cost value ($279 million) of state facilities in the state.

Jefferson County does not have any state facilities within highly susceptibility landslide hazard areas.

Table 4-30**: State Facilities Located Within the Subsidence Karst Hazard Area**

Number of Structures	Replacement Cost Value (Structure Only)	Replacement Cost Value (Contents Only)	Total Replacement Cost Value (Structure & Contents)
13	$250,331,187	$28,709,213	$279,040,400

Transportation routes are vulnerable to landslides and land subsidence and have the potential to be inaccessible, creating isolation issues. Those that are in poor condition are the most vulnerable; however,

roads and bridges in good condition could fault as well. Utility infrastructure is also vulnerable; the interruption of services may impact vulnerable populations and facilities that need to be in operation during a disaster. Full functionality of critical facilities such as police, fire, and medical services is essential for response during and after a subsidence event.

- Roads—Access to major roads is crucial to life-safety after a disaster event and to response and recovery operations. Landslides can block egress and ingress on roads, causing isolation for neighborhoods, traffic problems, and delays for public and private transportation.
- Bridges—Landslides can significantly impact road bridges. Mass movements can knock out bridge abutments or significantly weaken the soil supporting them, making them hazardous for use.
- Power Lines—Power lines are generally elevated above steep slopes; but the towers supporting them can be subject to landslides. A landslide could trigger failure of the soil underneath a tower, causing it to collapse and ripping down the lines.
- Rail Lines—Similar to roads, rail lines are important for response and recovery operations after a disaster. Landslides can block travel along the rail lines, which would become especially troublesome, because it would not be as easy to detour a rail line as it is on a local road or highway.

Critical facilities are crucial to continuity of operations statewide and are sorted into lifeline categories. Jefferson County does not have any critical facilities within highly susceptibility landslide hazard areas. However, there are two critical facilities in Jefferson County that are located in the subsidence/karst hazard area. Table 4-31 summarizes the critical facilities located in the subsidence/karst hazard area.

Table 4-31: Critical Facilities Located in the Subsidence Karst Area

Communications	Energy	Food, Water, Shelter	Hazardous Material	Health & Medical	Safety & Security	Transportation	Total
0	0	1	0	0	1	0	2

Understanding future changes that impact vulnerability in the state can assist in planning for future development and ensuring that appropriate mitigation, planning, and preparedness measures are in place. The State considered the following factors to examine potential conditions that may affect hazard vulnerability:

- Potential or projected development
- Projected changes in population
- Other identified conditions as relevant and appropriate, including the impacts of future conditions

Historic Resources & Environment

Impacts from drought and flood events may exacerbate the likelihood of a subsidence event due to soil expansion and contraction. As drought levels increase, the need to pump water from aquifers also increases, which increases the likelihood of subsidence (Water Education Foundation, 2023).

Projections may alter the stability of land in the subsidence hazards areas. Karst soils are easily erodible by rains as the water seeps into the rock, which can alter the landscape (National Geographic 2022). Eroded landscapes can lead to unstable ground above, making the area at increased risk. The alteration of these landscapes should be factored into future land use regulations to avoid an increased risk to population and property.

Additionally, increased deforestation and soil disturbances caused by development on sloped areas may further increase these risks. As timbering and development of sloped land continue, the risk of significant landslides increases.

4.4.6. Invasive Species

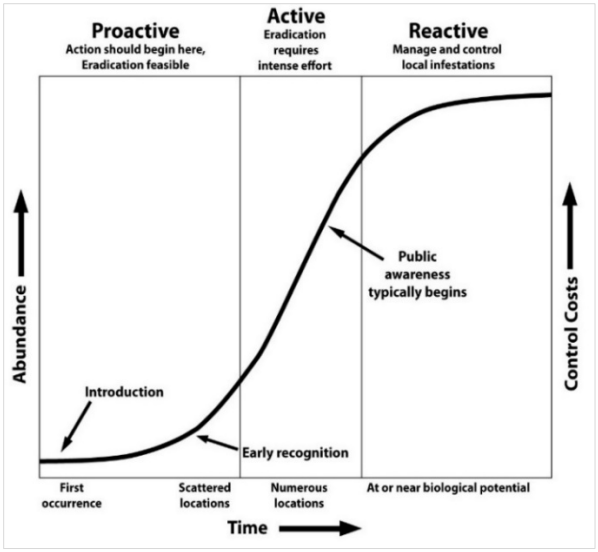
The spread of non-native plant, insect, and animal species, known as invasive species, has increased as international trade, travel and tourism have grown. Only a small percentage of these invasive species thrive and infest their new environment. Presidential Executive Order 13112 defines an invasive species as "an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health." There are four main types of invasive species: aquatic species, plants, animals, and microbes (USDA, 2016). There are approximately 500 invasive plant species and over 50 invasive animals or insects in West Virginia (WVDNR, 2014), with 236 documented in Jefferson County, 229 plant species, and seven insect species (UGA, 2018).

Invasive species harm or kill native species, alter the ecosystem, introduce diseases, limit crop production, and harm humans and animals. Invasive species affect both aquatic and terrestrial habitats. The introduction of invasive species to a new environment may be either unintentional or deliberate. Vehicles, cargo, humans, and animals can all unintentionally transport these species, as "hitchhikers", into new environments. However, most invasive species "are deliberately introduced as pets, ornamental plants, crops, food, or for recreation, pest control or other purposes" (USDA, 2016).

4.4.6.1. Location and Extent

No area is immune to invasive species, and every area of the U.S. has an invasive species problem. Some regions have larger issues than others. Areas that are near large bodies of water are particularly vulnerable because of the number of transportation hubs those areas are known to have. Heavily wooded areas, fields, wetlands, streams, rivers, and bays are also identified as being invaded by invasive species because of the habitats and natural spread from pollution and water (U.S. Fish & Wildlife Service, 2018).

Figure 4-28: Phases of Species Infestation and Control



4.4.6.2. Range of Magnitude

The magnitude of an infestation varies as widely as the species that can cause them. Invasive species can have severe impacts to agriculture, wipe out tree species, and out compete native organisms. Infestations can be caused by plants, animals, insects, or pathogens, and there are over 1,000 invasive species in West Virginia. The complete scope of magnitude of these organisms is outside the scope of this document. However, as seen in Figure 4-28, infestations do not often occur overnight, and invasive populations grow along a logistic curve. The earlier along this curve control and eradication actions are taken against an infestation, the more effective they will be. Once populations reach their peak level, they are very difficult to eradicate, and communities are forced to rely on careful management and control of invasive populations (WV DNR, 2014). Education and public awareness become extremely important as invasive species spread.

4.4.6.3. Past Occurrence

Species that impact trees that have been of specific concern to Jefferson County in recent years include the emerald ash borer, the gypsy moth, hemlock woolly adelgid, and spotted lanternfly. The emerald ash borer eats the cambium (cellular plant tissue) of ash trees, killing the tree within 2 or 3 years of infestation. The emerald ash borer was first sighted in 2013 in Jefferson County, and ash trees are now extremely scarce in the Eastern Panhandle (WV DNR, 2014; USDA, 2016). The table below lists the invasive species that have been documented in Jefferson County; there have been insects, diseases, and plants that affect the region.

Table 4-32: Documented Invasive Species in Jefferson County

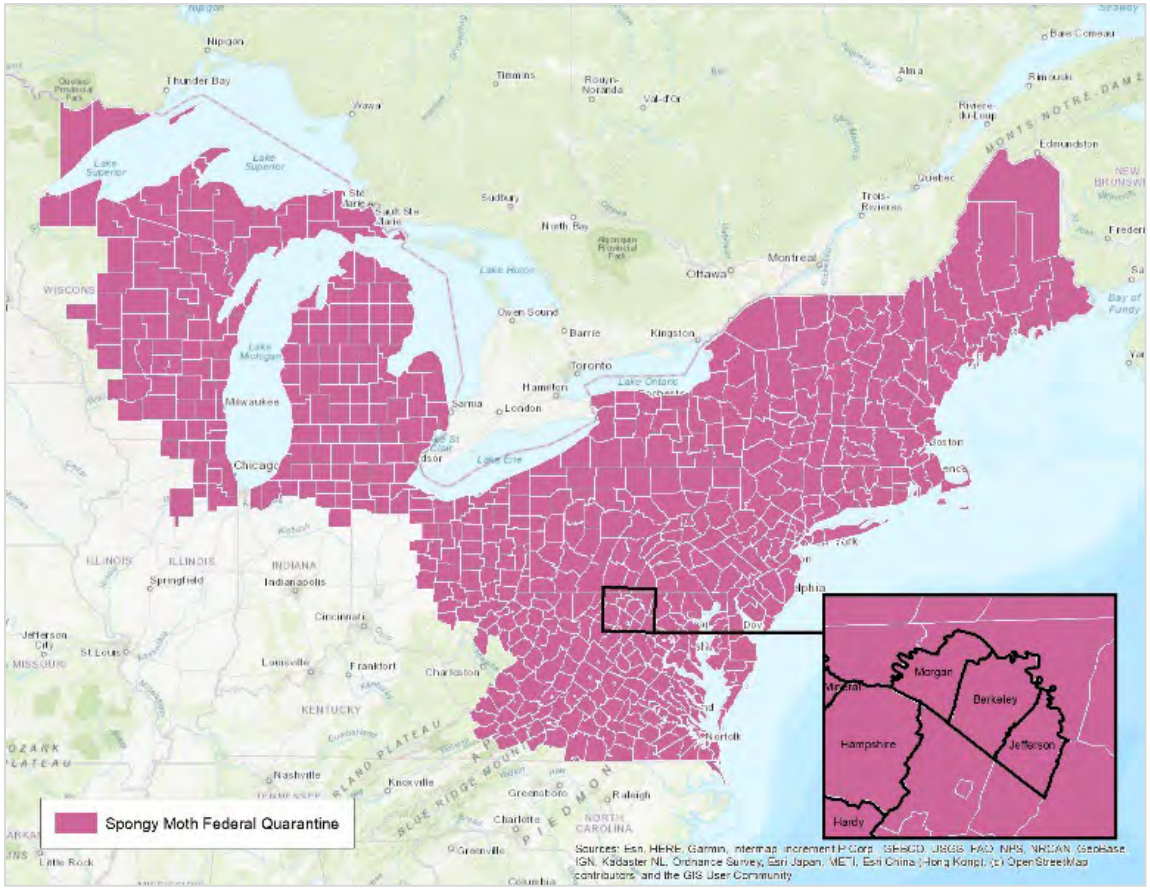
Insects			
Brown Marmorated Stink Bug	Mile-a-Minute Weevil	Emerald Ash Borer	Spotted Wing Drosophila
Gypsy Moth	Southern Pine Beetle	Hemlock Woolly Adelgid	
Diseases			
Butternut Cranker	Oak Wilt	White Pine Blister Rust	Dogwood Anthracnose
Plants			
Alfalfa	Common Cocklebur	Field Horsetail	Marsh Dayflower
Allegheny Blackberry	Common Cornsalad	Field Pennycress	Meadow Fescue
American Burnweed	Common Crupina	Field Pepperweed	Meadow Salsify
American Sycamore	Common Duckweed	Fiveangled Dodder	Mexicantea
Amur Honeysuckle	common Grape Hyacinth	Flixweed	Mile-a-Minute Vine
Annual Wormwood	Common Lilac	Giant Foxtail	Mimosa
Asiatic Dayflower	Common Mallow	Giant Ragweed	Morrow's Honeysuckle
Asparagus	Common Mullein	Goldenrain Tree	Motherwort
Bald Brome	Common Periwinkle	Ggoosegrass	Multiflora Rose
Bamboo	Common Pokeweed	Greater Celandine	Musk Mallow

Table 4-32: Documented Invasive Species in Jefferson County			
Birdsfoot Trefoil	Common Ragweed	Green Bristlegrass	Musk Thistle
Birdsrape Mustard	Common Salsify	Green Foxtail	Nettleleaf Goosefoot
Bittersweet Nightshade	Common Selfheal	Ground Ivy	Nodding Star-of-Bethlehem
Black Locust	Common St. Johnswort	Hairy Galinsoga	Northern Spicebush
Black Medic	Common Velvetgrass	Hedge Bindweed	Northern White Cedar
Black Mustard	Common Vetch	Hedge Mustard	Norway Maple
Black Walnut	Common Viper's Bugloss	Hemp Dogbane	Orchardgrass
Bluegrass	Corn Chamomile	Henbit	Oriental Bittersweet
Border Privet	Corn Cockle	Hollyhock	Oriental Lady's Thumb
Bouncingbet	Corn Gromwell	Horsenettle	Osage-Orange
Boxelder	Cornflower	Ivyleaf Morning-Glory	Oxeye Daisy
Bristlegrass	Creeping Bellflower	Ivyleaf Speedwell	Pale Smartweed
Bristly Foxtail	Creeping Buttercup	Japanese barberry	Paper-Mulberry
Bulbous Buttercup	Creeping Yellow Loosestrife	Japanese Honeysuckle	Paradise Apple
Bull Thistle	Curly Plumeless Thistle	Japanese Hop	Perennial Ryegrass
Bush Honeysuckles	Curly-Leaved Pondweed	Japanese Knotweed	Perilla Mint
Californis Privet	Cutleaf Teasel	Japanese Stiltgrass	Periwinkle
Callery Pear	Cypress Spurge	Jimsonweed	Pineapple-Weed
Canada Bluegrass	Dames Rocket	Johnsongrass	Plumeless Thistle
Canada Thistle	Dandelion	Kentucky Bluegrass	Porcelain-Berry
Canadian Horseweed	Deptford Pink	Kudzu	Poverty Brome
Catnip	Devil's-Claw	Lambsquarters	Purple Crown-Vetch
Cheatgrass	Dotted Smartweed	Large Aspen Tortrix	Purple Deadnettle
Chicory	Dyer's Woad	Large Crabgrass	Purple Loosestrife
Chinese Wisteria	Eastern Poison-Ivy	Large Hop Clover	Quackgrass
Chinese Yam	Eastern Redcedar	Lemon Balm	Queen Anne's Lace
Chocolate Vine	Eastern White Pine	Lily of the Valley	Rabbitfoot Clover
Coltsfoot	Eclipta	Longspine Sandbur	Rattail Fescue
Common Chickweed	English Ivy	Longstalk Cranesbill	Red Clover
Red Fescue	Spotted Knapweed	European Speedwell	Watercress
Red Mulberry	Spreading Hedgeparsley	European Stinging Nettle	Wavyleaf Basketgrass
Red Sorrel	Staghorn Sumac	False Strawberry	Western Salsify
Redstem Filaree	Standish's Honeysuckle	Field Brome	White Campion
Redstem Stork's Bill	Star-of-Bethlehem	Field Dodder	White Clover
Redtop	Stinging Nettle	Sweet Cherry	White Mulberry
Reed Canarygrass	Sweet Alyssum	Sweet Vernalgrass	White Poplar
Roughstalk Bluegrass	Tall Fescue	Toothed Spurge	White Willow

Table 4-32: Documented Invasive Species in Jefferson County			
Scarlet Pimpernel	Tall Morning-Glory	Trumpet Creeper	Wild Four-O'Clock
Seaside Rose	Tawny Daylily	Velvetleaf	Wild Garlic
Sericea Lespedeza	Teasel	Virginia Pepperweed	Willowleaf Lettuce
Shepherd's-Purse	Thoroughwort Pennycress	Wallflower Mustard	Wine Raspberry
Showy Baby's-Breath	Thymeleaf Sandwort	Water Knotweed	Winged Burning Bush
Siberian Elm	Timothy	Water Speedwell	Wisconsin Weeping Willow
Sickleweed	European Common Reed	Yellow Nutsedge	Yellow Alyssum
Silver Maple	European Privet	Yellow Rocket	Yellow Fieldcress
Small Carpetgrass	Yellow Sweet-Clover	Yellow Foxtail	Southern Catalpa
Small Hop Clover	Yello Toadflax	Yellow Groove Bamboo	Spiny Amaranth

Source: University of Georgia Center for Invasive Species and Ecosystem Health, 2017

Figure 4-29: APHIS Spongy Moth Federal Quarantine Counties



Gypsy moths have been a widespread issue in West Virginia after they first arrived in the state in the early 1970s. According to The West Virginia Division of Forestry, the gypsy moth is considered the most serious insect pest ever to invade West Virginia (WV Division of Forestry, 2020). The moths eat the leaves of many

hardwoods, which can kill trees and damage the health and appearance of forests. Exposure to the caterpillars of these moths can also cause minor health problems, such as irritation to the eyes or respiratory tract and rashes. Bans on the transport of certain trees and tree products, mobile homes, and outdoor household articles have been put in place in 44 West Virginia counties, including Jefferson County, to try to stop the spread of gypsy moths (WV DNR, 2014; USDA, 2016). Many counties are currently quarantined for Lymantria dispar by the USDA Animal and Plant Health Inspection Service (APHIS). Annually, new infestations are detected outside these counties and managed either by the STS program or eradicated by APHIS and state partners. Quarantined counties are shown in Figure 4-29 (USDA, 2023).

The hemlock woolly adelgid feeds off the sap of and is deadly to hemlock trees. It was reported in Jefferson County in 1997 and it has continued to spread across the state. The loss of hemlock trees contributes to dramatic changes in the composition of forests, habitat loss for birds, and the reduction of shade and increased sedimentation for cold water trout streams (WV DNR, 2014).

The spotted lanternfly has the potential to infest over 70 species of trees and vines. Its primarily known to infest the exotic and equally invasive tree-of-heaven (scientific name Ailanthus altissima) but has been detected on many of West Virginia's native tree hosts where it has the potential to cause severe economic and ecological damage. As of May 2021, a spotted lanternfly cluster was spotted in Jefferson County, just to the west of Kearneysville (West Virginia Department of Agriculture, July 2021).

Other infestations include a European fungus that causes white-nose syndrome and the death of bats, chestnut blight which eradicated chestnuts trees across their entire habitable entire range by 1940, and the brown marmorated stink bug which feeds on over 170 kinds of plants and crops (WV DNR, 2014). Feral cats are listed by the Global Invasive Species Database as one of the top 100 worst invasive species globally because of their impact on bird species and competition with other native species such as raccoons, foxes, and skunks. Over 270 invasive plants have been well documented in West Virginia, and more than a third of these are classified as posing moderate to high threats. These non-native species infest areas and out compete native plants and include Japanese knotweed, tree-of-heaven, and purple loosestrife (WV DNR, 2014).

The West Virginia Department of Agriculture (WVDA) confirmed that Jefferson County now hosts the invasive Spotted Lanternfly (*Lycorma delicatula*). Jefferson County was added to the list, which includes Berkeley and Mineral, after United States Department of Agriculture (USDA) collaborators spotted a small population on May 27 near Kearneysville, WV. The WVDA and USDA-APHIS confirmed the findings the following week. The WVDA will be conducting treatments with USDA-APHIS to contain the insects.

The Spotted Lanternfly is an invasive plant hopper that is native to China and arrived in North America hidden on goods imported from Asia. Juvenile spotted lanternflies, known as nymphs, and adults prefer to feed on the invasive tree known as Tree-of-Heaven (*Ailanthus altissima*), but also feed on a wide range

of crops and plants, including: grapes, apples, hops, walnuts and hardwood trees. For more information or to report potential Spotted Lanternfly sightings, contact bugbusters@wvda.us.

4.4.6.4. Future Occurrence

It is impossible to predict what infestations may emerge as a hazard, as new species can be introduced to the area without warning and existing pathogens can evolve to become a greater threat. However invasive species that already exist in West Virginia and may be of some concern for Jefferson County in the future include beech scale, yellow poplar weevil, and the Matsucoccus scale/Caliciopsis canker complex. Increases in temperature may also lead to greater risk of infestationby certain species of insect. These all threaten specific tree species and could fundamentally change the composition of forests in the Eastern Panhandle. Beech scale is a disease that exposes beech bark to attack by fungi, killing the tree, and is spreading north from the east central portion of West Virginia. It is has already reached Hardy and Mineral County. Yellow poplar weevils attack and eat the leaves of yellow poplar trees and has already begun to infest neighboring Berkeley County. It may spread to Jefferson County in the coming years. Matsucoccus scale is a bug that attacks cankers caused by Caliciopsis pinea, which is thought to be a fungus. The combination of these two conditions can kill white pines, but it has not spread to the Eastern Panhandle and so far is limited only to West Virginia counties that are further south (USDA, 2016).

As seen in Pennsylvania over the past several years, where the spotted lanternfly population exceeds that of West Virginia, spotted lanternflies can spread rapidly when introduced to new areas, especially if major highways, railways, or rivers are in proximity of the introduction site. The key to controlling the spread of this invasive pest throughout West Virginia will be early detection and prompt eradication efforts. Within the Eastern Panhandle, there is a profitable orchard industry which could be affected by an increased spotted lanternfly population. The West Virginia Department of Agriculture is diligently working to prevent the continued spread of spotted lanternfly with joint efforts including the USDA APHIS and other professional agricultural agencies (West Virginia Department of Agriculture, 2021). The probability of future invasive species impacting the region can be considered possible according to the Risk Factor Methodology (see Table 4-32).

4.4.6.5. Vulnerability Assessment

All of Jefferson County has been identified as the hazard area for invasive species; therefore, all assets within the county are vulnerable to the invasive species and infestation hazard. Invasive species are of significant concern to Jefferson County, mainly due to their effects on public health, natural resources, and agriculture. Estimated losses are difficult to quantify; however invasive species can impact Jefferson County's population and economy. Direct effects of infestation lead to cascading indirect impacts. As species compositions change due to infestation outbreaks, whole fire regimes can shift. Physical stresses on trees may also affect how trees respond to other natural hazards such as hurricanes, drought, and ice storms (Kurtz 2007). The following text details the analysis of potential impacts of the invasive species hazard on Onondaga County.

4.4.6.6. People

The entire population of Jefferson County is vulnerable to insect borne diseases that can be carried by invasive insects such as species of ticks and mosquitos. The elderly population and people with suppressed immune systems are most susceptible to effects of West Nile Virus, while these populations and children under 15 are most at risk for complications from EEE.

Species that cause eventual destabilization of soil, such as invasive insects that destroy plants or invasive plants that outcompete native vegetation but have less effective root systems, can increase runoff into waterbodies. This can lead to increased harmful algal blooms and negative impact on drinking water supplies. Soil destabilization can also increase the likelihood of mudslides in areas with steep slope. Species that kill trees such as EAB and Hemlock Woolly Adelgid, can increase the likelihood of trees or branches falling on people or knocking out utilities that people are dependent on.

4.4.6.7. Structures & Systems

No structures are anticipated to be affected directly by invasive species and infestations; however, as vegetation dies or becomes stressed and weakened by pests such as the Emerald Ash Borer, buildings, utilities, roads, and other infrastructure are vulnerable to damage by falling trees and debris. Additionally, available fuel and high intensity wildfires increase with the increase in deceased vegetation. Physical stresses on trees may also affect how trees respond to other natural hazards such as windstorms, drought, and ice storms (Kurtz 2007).

The Emerald Ash Borer and Hemlock Woolly Adelgid may cause a catastrophic loss of ash and hemlock trees throughout public parks and forests, which could result in stream bank instability, erosion, and increased sedimentation. Specifically, the hemlock tree is one of few species well suited for growth on steep slopes and helps to stabilize the soil (WVDNR, 2023). Unstable slopes in areas of infected hemlock tree may lead to a higher risk to impacts from ground failure for buildings, utilities and infrastructure downslope. In addition, a preponderance of dead tree limbs could increase the occurrence of downed trees on roadways and power lines in storms with heavy winds.

Some invasive plants have been shown to destabilize soil due to high densities and shallow root systems, negatively impacting nearby buildings and septic systems. This could also lead to degraded water quality in water bodies next to areas with steep slope and destabilized soils. Other invasive plant species such as phragmites and purple loosestrife have been known to clog culverts and streams, increasing flooding risk and compromising roads and pipes. In severe occurrences, utilities may also be interrupted by invasive plants, such as hydrilla, blocking the water intakes of treatment plants and power generation facilities (New York Invasive Species Information 2012).

4.4.6.8. Resources and Community Assets

Impacts of invasive species and infestations on the economy and estimated dollar losses are difficult to measure and quantify. Costs associated with activities and programs implemented to conduct surveillance and address invasive species and infestations have not been quantified in most available documentation.

Invasive species can harm wildlife in several different ways. When a species enters an ecosystem, it can breed or spread quickly and take over an area if it has no natural predators. Native species may not be able to defend their habitats from the invasive species. Native species may also become prey or have to compete for food. Invasive species can carry disease, prevent native species from reproducing or kill native species offspring (National Wildlife Federation, 2018).

There are also indirect results of an alien species moving into a new habitat. Invasive species can change the food web in an ecosystem by destroying or replacing native food sources. Though a new species may become an optional food source, it may not produce enough to supply the wildlife around it. Some species can completely reconstruct an ecosystem; aggressive plant species can take over ecosystems and replace every plant with a form of itself (National Wildlife Federation, 2018)

The effects of an infestation to this region could be quite damaging due to the thousands of acres of agriculture and forested land in the region. Infestations often spread regionally, as invasive species are often adept at gaining footholds and outcompeting native species in entire biomes. Typically, because of the make-up of the flora and fauna of an area, entire counties are impacted equally by the invasive species present there.

The emerald ash borer and gypsy moth can be transported through firewood or other tree products. Spotted lanternflies can be spread long distances by people who move infested materials or items containing eggs. Farmers or individuals involved in timber sales may be more vulnerable to the impacts of infestation due to the potential for pests to damage crops or trees; farmers in Jefferson County have millions of dollars in crops that could be affected.

Aquatic invasive species may compromise water bodies used for fishing, recreation, or industrial processes. Those involved in any of these activities may be directly or indirectly vulnerable, due to productivity or financial loss as well as the inability to enjoy outdoor aquatic habitats. These outcomes could indirectly affect human health due to financial strain or psychological impacts.

4.4.7. Public Health & Pandemic

In the 2023 Plan Update, the Public Health Crisis profile was changed to Public Health & Pandemic. Pandemic is defined as a disease affecting or attacking the population of an extensive region, including several countries, and/or continent(s). It is further described as an extensive epidemic. Generally, pandemic diseases cause sudden, pervasive illness in all age groups on a global scale. Infectious diseases are also highly virulent and can be spread person-to-person.

According to the Centers for Disease Control and Prevention (CDC), there are various levels that refer to the amount or extent of a disease occurrence.

- Pandemic refers to an epidemic that has spread over several countries or continents, usually affecting a large number of people.
- Endemic refers to the constant presence and/or usual prevalence of a disease or infectious agent in a population within a geographic area; it is the amount of a particular disease that is usually present in a community or baseline. Epidemics occur when an agent and susceptible hosts are present in adequate numbers, and the agent can be effectively conveyed from a source to the susceptible hosts. More specifically, an epidemic may result from:

- a recent increase in amount or virulence of the agent,
- the recent introduction of the agent into a setting where it has not been before,
- an enhanced mode of transmission so that more susceptible persons are exposed,
- a change in the susceptibility of the host response to the agent, and/or
- factors that increase host exposure or involve introduction through new portals of entry.

- Sporadic refers to a disease that occurs infrequently and irregularly.
- Hyperendemic refers to persistent, high levels of disease occurrence.
- Cluster refers to an aggregation of cases grouped in place and time that are suspected to be greater than the number expected, even though the expected number may not be known.
- Outbreak carries the same definition of epidemic but is often used for a more limited geographic area.

Some diseases are so rare in a given population that a single case warrants an epidemiologic investigation (e.g., rabies, plague, polio), other diseases occur more commonly so that only deviations from the norm warrant investigation.

For this plan, diseases considered are limited to West Virginia Reportable Diseases according to the WV Code 16-3-1: 64 CSR 7.

The statistics for disease and epidemics are gathered on a county basis; municipalities are included in the overall risk analysis performed by the state. An epidemic can affect all parts of Jefferson County but is more probable to occur in densely populated areas, such as the City of Charles Town and Ranson, particularly large, multi-unit residential developments, and facilities at which a large workforce is employed.

Pandemic and infectious disease events cover a wide geographical area and can affect large populations, potentially including the entire population of the region. The exact size and extent of an infected population is dependent upon how easily the illness spreads, the mode of transmission and the amount of contact between infected and uninfected individuals. The transmission rates of pandemic illnesses are often higher in denser areas where there are large concentrations of people. The transmission rate of infectious disease will depend on the mode of transmission of a given illness. Pandemic events can also occur after other natural disasters, particularly floods, when there is the potential for bacteria to grow and contaminate water.

The region is primarily concerned with the possibility of a pandemic flu outbreak. Influenza, also known as “the flu,” is a contagious disease that is caused by the influenza virus and most commonly attacks the respiratory tract in humans. Influenza is considered to have pandemic potential if it is novel, meaning that people have no immunity to it, virulent, meaning that is causes deaths in normally healthy individuals, and easily transmittable from person-to-person.

Different strands of influenza mutate over time and replace older strands of the virus and thus have drastically different effects. The H1N1 virus, colloquially known as swine flu, is of particular concern. This virus was first detected in people in the United States in April 2009. On June 11, 2009, the World Health Organization signaled that a pandemic of 2009 H1N1 flu was underway (CDC, 2009). Avian influenza, also known as bird flu, infects birds. A recent strain, H5N1, has caused concern due to its ability to pass from wild birds to poultry then on to people. This virus has killed more than half of the people infected with it, although the avian flu is less likely to infect humans.

Prior to the beginning and during the 2023 Hazard Mitigation Plan Update process, a novel coronavirus spread into a worldwide pandemic. Named COVID-19, this type of coronavirus is a new virus that causes respiratory illness, is extremely contagious even prior to exhibiting symptoms or if the infected person is asymptomatic and can be fatal. Flu-like in nature, symptoms of the virus include fever, cough, shortness of breath, and diarrhea.

This virus became a great concern due to its high rates of transmission, and high incidence of mortality in addition to so little being known about it. Severe reactions that require immediate medical care include trouble breathing, persistent pain or pressure in the chest, new confusion, inability to wake or stay awake, and discolored skin, lips or nail beds (CDC, 2021a). In extreme COVID-19 cases that require hospitalization, patients require ventilators to support breathing and may pass away from COVID-19 or COVID-19 related reasons. Governor Jim Justice issued the first stay-at-home order on March 24, 2021 for all West

Virginians. Schools were moved to virtual settings, non-essential businesses were closed, and all essential state services were continued operation (WVDHHR, 2020). The region adopted all state-level restrictions and guidelines to slow the spread of the virus. People were advised to practice social distancing; only leaving the house for essentials like grocery shopping, and to avoid gathering even in small groups. Even when going on walks, people should remain six feet apart to slow the spread of transmission. At least three new variants of the virus have been detected globally, each reaching the United States by January 2021, with the possibility of more occurring (CDC, 2021a). On March 5, 2021, Governor Justice announced that, after continued discussions with members of the West Virginia pandemic response leadership team regarding the decreasing number of COVID-19 cases and the increasing number of vaccinated West Virginians, he was lifting capacity restrictions on several types of West Virginia businesses, increasing the social gathering limit, and permitting more youth travel sports to take place.

Starting January 2021, vaccines were distributed in phases based off of vulnerable populations as well as those who are frequently exposed.

The West Virginia Department of Health and Human Resources (DHHR) reports as of July 5, 2023, there have a total of 8,156 deaths attributed to COVID-19. Currently, West Virginians ages 6 months and older are recommended to stay up to date with COVID-19 vaccination. The free online tool, Calculator, helps individuals figure out when they may be due for a COVID-19 shot, making it easier to stay up-to-date on COVID-19 vaccination.

4.4.7.1. Past Occurrence

The United States Department of Health and Human Services estimates that influenza pandemics have occurred for at least 300 years at unpredictable intervals. There have been several pandemic influenza outbreaks over the past 100 years. A list of events and worldwide deaths are shown in Table 4-33 below.

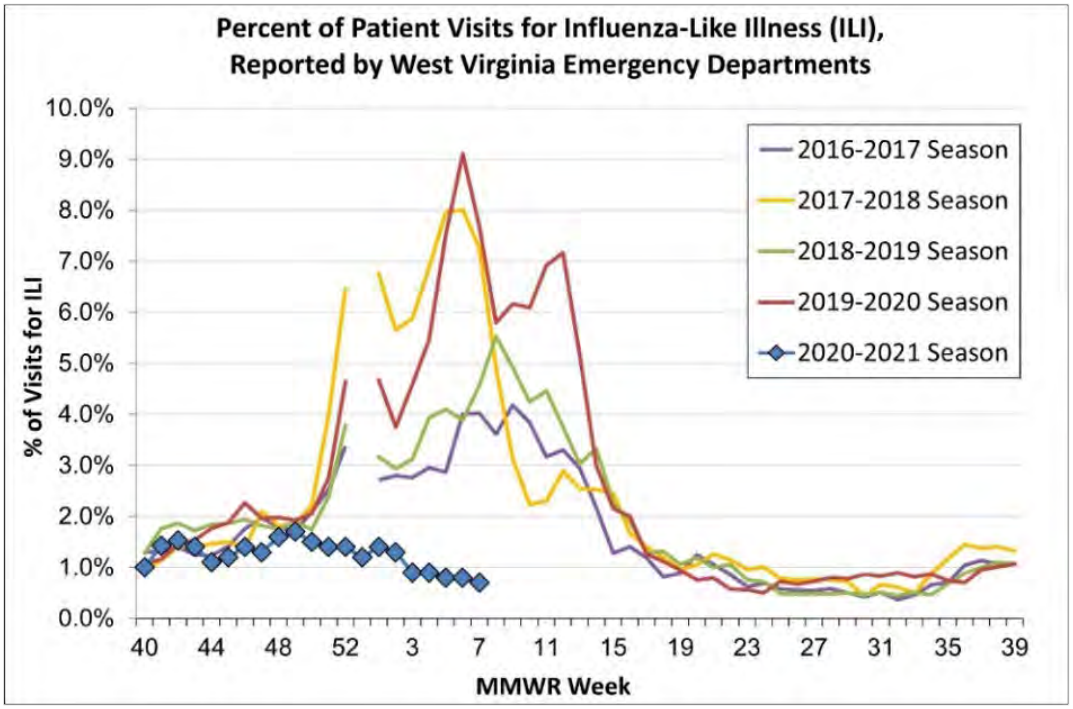
Table 4-33: Influenza Outbreaks over the Past Century (Global Security, 2009; WHO, 2009)

Date	Pandemic	Worldwide Deaths (approximate)
1918-1920	Spanish Flu / H1N1	50 million
1957-1958	Asian Flu / H2N2	1.5-2 million
1968-1969	Hong Kong Flu / H3N2	1 million
2009 - 2010	Swine Flu / A/H1N1	12,000
2020-Continuing	COVID-19	3.76 million +

The CDC marked the 2014-2015 flu season as severe, with approximately 590,000 hospitalizations. The 2017-2018 flu season was another severe season, with approximately 810,000 hospitalizations nationwide. Figure 4-30 below displays the percentage of emergency visits that were for influenza-like illness and that were reported during the current influenza season and the four preceding seasons (2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020) in West Virginia. As demonstrated in that figure, influenza seasons vary in severity and duration. When peak influenza activity will occur and how severe it

will be cannot be predicted. “MMWR Week” refers to the number assigned to each week of the year by the CDC, with January 1st falling either in Week 1 or Week 52/53. MMWR Week 40 is usually the first week of October. Flu cases were remarkably down in the 2020-2021 season, likely due to masking, social distancing, and stay-at-home mandates due to the COVID-19 pandemic.

Figure 4-30: Percentage of Emergency Visits for influenza-like symptoms 2016-2021 (WVDHHR, 2021a)



The COVID-19 outbreak began in China in November 2019. According to a report published by the CDC on June 5, 2020, the first case of COVID-19 in the United States occurred on January 15, 2020 when a person traveled from Wuhan, China to Seattle and fell ill four days later. Small community spreading of the virus occurred during the second half of January and early February, prior to the more widespread outbreak of the virus in late February of 2020 (Jorden MA, Rudman SL, et al, 2020). The virus became more widespread in the US in late February 2020, and most counties in West Virginia were affected by March 2020. As of June 2021, there were more than 163,000 confirmed cases and more than 2,860 deaths in West Virginia, with 12,796 cases and 130 deaths reported in Berkeley County and 1,224 cases and 23 deaths in Morgan County (WVDHHR, 2021b). As of July 2023, a total of 18,335 confirmed cases and 151 deaths were reported for Jefferson County. In January 2021, a vaccine became available, and is readily available at the time of this writing. In spring 2021, many states, including West Virginia began to lift masking and stay at home mandates. The federal COVID-19 PHE declaration ended on May 11, 2023. Most tools, like vaccines, treatments, and testing, remain available. CDC's ability to collect and share certain data has changed.

The regional epidemiologist provided information for the following table that includes reportable disease

cases in Jefferson County from 2011 to 2021.

Table 4-34: Reportable Disease Cases in Jefferson County											
Disease	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Amebiasis	0	1	0	0	0	0	–	–	–	–	–
Animal Bites/Exposures	0	1225	174	170	201	180	149	154	235	0	222
Botulism, Infant	0	0	0	0	0	1	0	0	1	0	0
Campylobacteriosis	<5	13	8	1	10	17	21	16	22	6	23
Carbepenem-resistant Enterobacteriaceae	0	0	0	0	0	5	2	0	1	0	2
Cholera	0	0	0	0	0	1	0	0	–	0	0
Cryptosporidiosis	0	0	1	0	0	0	0	7	6	0	3
E. coli shiga-toxin producing (STEC)	0	1	2	1	2	1	3	–	–	1	4
Ehrlichiosis/Anaplasmosis	0	0	2	1	2	1	2	0	0	0	0
Giardiasis	<5	5	4	2	3	1	1	0	7	0	5
Haemophilus influenzae, invasive	<5	3	2	1	2	1	1	0	2	0	1
Hepatitis A, Acute	0	1	0	0	0	4	0	1	1	0	1
Hepatitis B, Acute	<5	3	1	1	0	0	7	8	1	1	0
Hepatitis B, Chronic	0	3	13	13	5	9	16	1	8	1	8
Hepatitis C, Acute	<5	3	1	1	0	0	2	0	0	0	2
Hepatitis C, Chronic	0	51	57	113	132	86	117	187	139	19	110
Hepatitis E	0	0	1	0	0	0	–	–	–	–	–
Influenza-related death, underage 18	0	0	0	1	0	0	–	–	–	0	0
Legionellosis	0	1	3	0	0	1	2	1	2	1	0
Listeriosis	0	0	1	0	1	0	0	0	0	0	1
Lyme Disease	40	39	27	22	44	34	42	30	38	8	35
Pertussis	<5	0	1	1	0	0	0	2	0	0	0
Q Fever	0	0	0	1	0	0	0	0	–	0	0
Rabies, animal	<5	5	3	7	5	1	5	7	5	0	1
Rocky Mt. Spotted Fever	0	0	0	0	1	2	4	4	1	–	–
Salmonella	6	16	10	7	10	8	12	11	15	6	15
Shigella	<5	1	0	0	0	1	2	3	2	0	1
Streptococcus, Group A invasive	<5	0	0	0	0	0	–	–	0	0	–

Disease	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Streptococcus, Group B invasive	0	0	1	0	1	4	–	–	8	2	–
Streptococcus pneumoniae, invasive	8	9	6	6	5	4	4	4	4	1	2
Tularemia	0	0	0	1	0	0	–	–	0	0	0
TOTAL	**73**	**283**	**321**	**352**	**426**	**363**	**392**	**436**	**498**	**46**	**436**

Source: WV Office of Epidemiology & Prevention Services Infectious Disease Surveillance Data - https://oeps.wv.gov/surveillance/pages/default.aspx

4.4.7.2. Future Occurrence

Future occurrences of pandemics and infectious diseases are unclear. The precise timing of pandemic influenza is uncertain, but occurrences are most likely when the Influenza Type A virus makes a dramatic change, or antigenic shift, that results in a new or "novel" virus to which the population has no immunity. This emergence of a novel virus is the first step toward a pandemic. Future pandemics may also emerge from other diseases, especially invasive pathogens that West Virginian's do not have natural immunity to. While it is unlikely that pandemics and infectious diseases will affect the region, this hazard occurred recently. It is impossible to predict this type of hazard. The best form of county response is to expect that these events can occur at any time and to constantly evaluate resources and update emergency response plans.

Looking at the number of historical incidences of pandemic-potential diseases, the probability of future pandemic events can be considered possible according to the Risk Factor Methodology, Section 3.

4.4.7.3. Range of Magnitude

The magnitude of a pandemic or infectious disease threat in Jefferson County will range significantly depending on the aggressiveness of the virus in question and the ease of transmission. Pandemic influenza is easily transmitted from person-to-person, but advances in medical technologies have greatly reduced the number of deaths caused by influenza over time. The magnitude of a pandemic may be exacerbated by the fact than an influenza pandemic will cause outbreaks across the United States, limiting the ability to transfer assistance from one jurisdiction to another. Additionally, effective preventive and therapeutic measures, including vaccines and other medications, will likely be in short supply or will not be available.

In terms of lives lost, the impact various pandemic influenza outbreaks have had globally over the last century has declined. The severity of illness from the 2009 H1N1 influenza flu virus varied, with the gravest cases occurring mainly among those considered to be high risk. High risk populations are considered to be more vulnerable and include children, the elderly, pregnant women, and chronic disease patients with reduced immune system capacity. Most people infected with swine flu in 2009 recovered without needing medical treatment. Unlike a regular flu season, according to the Centers for Disease Control and Prevention (CDC) the majority of people who died, as many as 77 percent, were 18-64 years old with up

to 11 percent of the deaths estimated in those 17 years old or younger (CDC, 2009).

The 1918 Spanish flu pandemic was the worst-case pandemic event in the 20th century for both West Virginia and worldwide. County data is unavailable, and mortality figures were probably under-reported. It is recorded that over 71,000 West Virginians died from the flu or its complications in this pandemic (Kercheval, 2020). Infection rates were much worse in denser cities, which should be a higher priority for response actions in future flu events.

In 2020 COVID-19, another worst-case pandemic began having worldwide impacts. As of June 2021, we are still facing impacts of the pandemic. Berkeley and Morgan County have faced varying impacts of the COVID-19 pandemic. It is believed that the virus originated in an open-air market in the Wuhan province of China in November 2019. Shortly afterwards, the virus began to spread to nearby countries including Japan and South Korea. By March 2020, the virus had reached almost every country worldwide, with the most cases in the United States. At first, concern was focused on people who might be infected due to recent travel. However, community infections soon began to crop up in many cities and towns. This led to a statewide shutdown of schools and businesses and the cancellation of large events for the remainder of 2020. Only life sustaining services were permitted to remain open, including medical facilities, pharmacies, and grocery stores. People were advised to remain home as much as possible in an attempt to slow the transmission of COVID-19. State health officials note that the virus has infected all age ranges at about the same rate, and that no age group can be considered more or less vulnerable to infection. However, people with underlying health conditions and the elderly population are more vulnerable to the virus having serious, or even deadly, symptoms. New variants of the virus reached the United States in January 2021. The CDC notes that these variants spread more easily and quickly than other variants, which may lead to a rapid increase in COVID cases (CDC, 2021a). It is currently unknown how new variants will interact with existing vaccines.

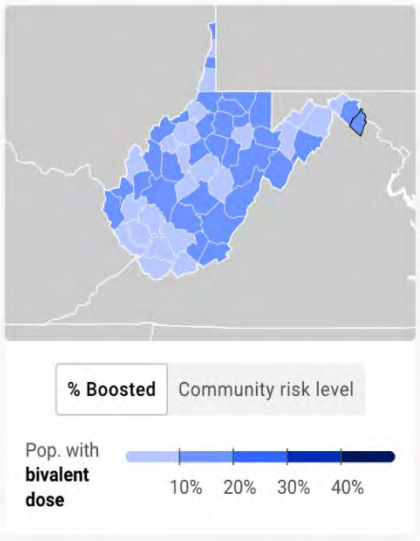
4.4.7.4. Vulnerability Assessment

Epidemics can develop with little or no warning and quickly erode the capacity of local medical care providers. A fast-developing epidemic can last several days and extend into several weeks. In some extreme cases, they can last for several months. An epidemic can occur at any time of the year, but the warm summer months, when bacteria and microorganism growth are at their highest, present the greatest risk.

Certain population groups are at higher risk of pandemic flu infection. This population group includes people 65 years and older, children younger than 5 years old, pregnant women, and people of any age with certain chronic medical conditions. Such conditions include but are not limited to diabetes, heart disease, asthma, and kidney disease (CDC, 2015). Schools, colleges, convalescent centers, and other institutions serving those younger than 5 years old and older than 65 years old, are locations conducive to faster transmission of pandemic influenza since population identified as being at high risk are concentrated at these facilities or because of a large number of people living in close quarters. In general,

jurisdictions that are more densely population are more vulnerable to disease threats when the disease is directly spread from human to human, but every jurisdiction in the state has some vulnerability to pandemic and infectious disease threats.

Local health departments have taken steps to ensure a base level of preparedness for pandemics and other infectious diseases. National and state efforts to encourage vaccinations have also been relatively successful. According to COVIDActNow.org, in Jefferson County, West Virginia, 46,206 people (80.9%) have received at least one dose, 38,418 (67.2%) have received at least two doses or a single Johnson & Johnson dose, 18,319 (32.1%) have received a booster dose, and 9,994 **(17.5%)** have received an updated bivalent booster dose. Vaccinations help protect even non-vaccinated individuals due to herd immunity, meaning that a pathogen has a more difficult time spreading due to higher immunity rates.



4.4.7.5. People

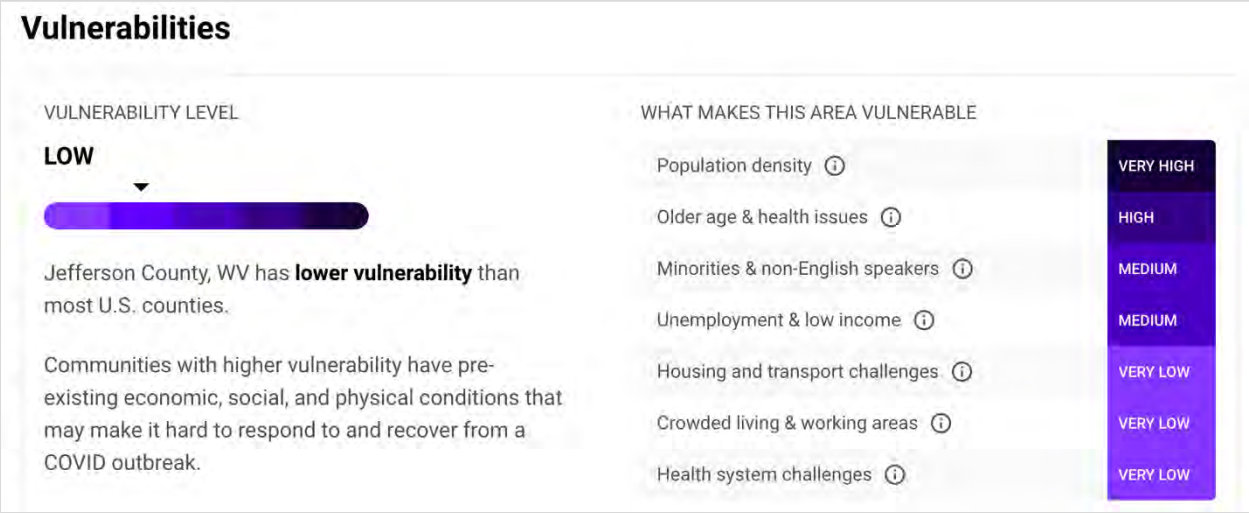
There are some occupation-specific risks that may make some employees more vulnerable. For example, those working in direct patient care situations are more likely to be exposed to a pandemic disease. Major concerns during an epidemic or outbreak include the ability of local health care providers to provide medical attention to everyone who becomes ill, and the ability to identify the source or what is causing the population to become ill. Cascading effects of epidemics can include the following.

- Illness or death
- Civil disturbance
- Distrust of government
- Poor water quality
- Temporary loss of income

In terms of social vulnerability, HHS emPower Map tool, users can select different geographies, as needed, to identify at-risk populations and download selected data results to inform their emergency preparedness, response, recovery, and mitigation public health activities. Users can also access near real-time natural hazard data layers to anticipate and address the needs of at-risk community members in emergencies. For more instructions and information, review the detailed job aids in the top right corner. Medicare data indicates that there are 12,235 beneficiaries within Jefferson County. Beneficiary means a person who is entitled to Medicare benefits and/or has been determined to be eligible for Medicaid. Medicare beneficiaries rely on electricity-dependent durable medical and assistive equipment (DME) and devices to live independently in their homes, and some of those individuals also have health care service dependencies.

Higher vulnerability areas are more likely to experience severe physical and economic suffering from COVID or other epidemics/pandemics, and to face a harder, longer recovery. According to COVIDActNow.org, Jefferson County has lower vulnerability than most counties in the U.S.

Figure 4-31: Jefferson County Vulnerability (COVIDActNow, 2023)



4.4.7.6. Structures, Systems, and Environmental Impacts

The West Virginia Electronic Disease Surveillance System (WVEDSS) utilizes the National Electronic Disease Surveillance System (NEDSS) framework to electronically manage and transmit communicable disease reports. The system serves healthcare providers, laboratories, hospitals, health departments and the Centers for Disease Control.

The environmental impacts of pandemics and infectious disease threats are still being determined. Many countries noted environmental benefits to everyone sheltering-in-place due to reduced commuting pollution and overall, an increase in air quality. Some areas have also identified "mask trash" from discarded face masks as a new form of litter that may have impacts on storm drains and otherwise still being determined. There will be significant economic and social costs beyond the possibility of disease-related deaths. Widespread illness may increase the likelihood of shortages of personnel to perform essential community services. In addition, high rates of illness and worker absenteeism occur within the business community, and these contribute to social and economic disruption. Social and economic disruptions could be temporary but may be amplified in today's closely interrelated and interdependent systems of trade and commerce. Social disruption may be greatest when rates of absenteeism impair essential services, such as power, transportation, and communications. Research of COVID-19 suggests that public transportation has greatly increased the transmission of this and other past viruses, bringing this vulnerability to light.

Jurisdictional losses in a pandemic or infectious disease outbreak stem from lost wages and productivity, not losses to buildings or land. Losses are difficult to estimate because the exact rates of absenteeism and cost of treating a widespread disease will depend on the virus or bacterium in question, the availability of vaccination or treatment, and the severity of symptoms. The World Bank estimates that a severe flu pandemic could kill as many as 71 million people worldwide and cause a $3 trillion recession (CIDRAP, 2008).

The COVID-19 pandemic has also spurred conversations around creating safe public spaces and work environments regarding pandemic and infectious disease. The International Code Council (ICC) published an overview of code compliance that helps facilitate response to pandemic instances. For example, properly designed, installed, and maintained ventilation systems can help in mitigating the spread of pathogens (ICC, 2020). Many buildings have chosen to inspect and upgrade these systems during shelter in place orders. This is essential towards stopping the spread of pathogens in high density residential buildings and ensures workers will return to a safe environment when it is safe to work in offices again.

Losses based on historical epidemic occurrences are difficult to estimate. According to a study by Molinari (2007), seasonal influenza results in a substantial economic impact, estimated, in part, at $16.3 billion in lost earnings. By population, Jefferson County represents 0.17% of the United States. Since seasonal influenza primarily impacts the human population, using Jefferson County's composition of the U.S. as a multiplier (i.e., 0.0017) and applying it to the potential economic impact, lost earnings in Jefferson County could reach a staggering $27,710,000 each year. Though that number appears high, it equates to approximately $491 per year for each person in the county. Epidemics rarely affect structures. Epidemics may affect people and, at times, the operations of critical facilities, businesses, and other community assets.

4.4.7.7. Resources & Community Activities

Community impacts may include the cancelation of various community activities, as seen during the Covid-19 Pandemic. In addition, an aversion to the workplace or other group gathering venues may occur both during and after a public health incident resulting in long-term issues. In addition, tourism activities due to travel avoidance, affects local restaurants and other public spaces that are supported by both the local population and tourism. Below are community activities that occur throughout the year or annually.

- Jefferson County Fair – July and August at Jefferson County Fairgrounds and weekly farm markets
- Historical Walking Tours of Harpers Ferry, WV – Available All Year (Note four (4) of the National Register Areas within Harpers Ferry are located in the 1-percent-annual chance floodplain.)
- Hollywood Casino Horse Races – Reoccurring – Located in Charles Town
- September 22 - 24 - Mountain Heritage Arts & Craft Festival at Jefferson County Fairgrounds
- October 7 - Freedoms Run (Note: held in in Harpers Ferry & Shepherdstown.)

4.4.8. Severe Thunderstorm & Hail Storm

The wind gusts associated with thunderstorms pose a threat to life and/or property. Severe thunderstorms also have the potential of producing a tornado with little or no advanced tornado warning. Thunderstorms can also produce hail or heavy downpours that can lead to localized flooding. Thunderstorms are often characterized by frequent cloud-to-ground lightning as well.

Table 4-35: Types of Thunderstorms

Type	Description	Duration	Wd Speeds	Associated Hazards
Single Cell	Uncommon	20 - 30 minutes	No Data Available	• Non-damaging hail • Microbursts • Weak tornadoes
Multi Cell	Common, organized cluster of two or more single cells.	Each cell lasts approximately 20 minutes	Downbursts of up to 80 mph	• Heavy rainfall • Downbursts • Hail • Weak tornadoes
Mesoscale Convective System (MCS)	Well organized system of thunderstorms	Up to 12 hours or more	55 mph or more	• Torrential rainfalls • Derechos • Tornadoes
Squall Lines	May extend over 250 to 500 miles and 10 to 20 miles wide	Individual cells last from 30 to 60 minutes	No Data Available	• Significant rain after the storm • Derechos
Super Cells	Most dangerous storms, visible with Doppler radars	1 - 6 hours	Updrafts and downdrafts of more than 100 mph	• Tornadoes • Hail

Lightning is a rapid discharge of electrical energy in the atmosphere. When the charge difference between the ground and the cloud becomes too large, a conductive channel of air develops between the cloud and the ground, and a small amount of charge (step leader) starts moving toward the ground. When it nears the ground, an upward leader of opposite charge connects with the step leader. At the instant this connection is made; a powerful discharge occurs between the cloud and the ground. This discharge is seen as a bright visible flash of lightning.

Hail is a form of precipitation that occurs when updrafts in thunderstorms move raindrops up into incredibly cold areas of the atmosphere, freezing them into balls of ice. Thunderstorms that have a very strong updraft repeatedly lift hailstones up into the top of the cloud where they encounter supercooled

water drops. These water drops will freeze on contact with the hail, increasing its size. The hail falls when the updraft can no longer sustain the weight of the hailstones (NSSL NOAA, 2021).

When the hailstone is heavy enough, it will fall to the ground (NSSL, n.d.). In 1986, Jonathan Webb, a member of the Tornado and Storm Research Organization (TORRO) in England, developed the TORRO Hailstorm Intensity Scale as a way to measure and categorize hailstorms (Voss Law Firm, n.d.).

Table 4-36: Torro Hailstorm Intensity Scale

Intensity		Typical Hail Diameter (mm)	Typical Hail Diameter (in)	Typical Damage	Example Size Description
H0	Hard Hail	5	Up to 0.33	No damage.	Pea
H1	Potentially Damaging	5 to 15	0.33-0.60	Slight general damage to plants, crops.	Mothball
H2	Significant	10 to 20	0.60-0.80	Significant damage to fruit, crops, vegetation.	Marble, Grape, Dime
H3	Severe	20 to 30	0.80-1.2	Severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored.	Walnut, Nickel to Quarter
H4	Severe	25 to 40	1.2-1.6	Widespread glass damage, vehicle bodywork damage.	Pigeon's egg > squash ball
H5	Destructive	30 to 50	1.6-2.0	Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries.	Golf ball > Pullet's egg
H6	Destructive	40 to 60	2.0-2.4	Bodywork of grounded aircraft dented, brick walls pitted.	Hen's egg
H7	Destructive	50 to 75	2.4-3.0	Severe roof damage, risk of serious injuries.	Tennis ball > Cricket ball
H8	Destructive	60 to 90	3.0-3.5	(Severest recorded in the British Isles) Severe damage to aircraft bodywork.	Large orange > Soft ball
H9	Super Hailstorm	75 to 100	3.5-4.0	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open.	Grapefruit
H10	Super Hailstorm	>100	4.0+	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open.	Melon

4.4.8.1. Location and Extent

Thunderstorms are one of the most frequently occurring hazards throughout the County. NCEI records reflect the most severe thunderstorms. Storms, however, are common throughout the spring and summer months (although a thunderstorm can occur in any season) that cause downed trees and power lines. Residents and businesses are likely to incur more damage because of these "smaller" storms as individual houses and vehicles are damaged by fallen limbs and businesses are forced to close due to a lack of electricity.

More than 100,000 thunderstorms occur in the U.S. each year, with lightning striking more than 30 million points on the ground during that same period. This causes an average of between 55-60 fatalities and 300 injuries each year. Lightning can occur with all thunderstorms, of which the entire region is susceptible. Lightning fatalities are also most common during the summer and during the afternoon and evening.

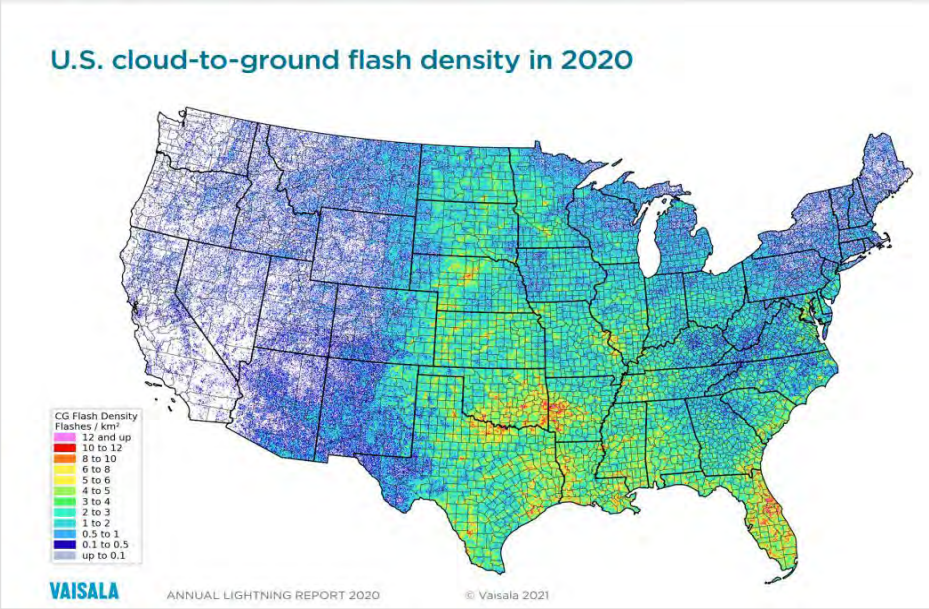
Hail is a relatively minor natural hazard in all parts of the region, but it occurs with some frequency. Even with these frequent occurrences, losses tend to be minor, especially to critical facilities and other infrastructure. Much like minor thunderstorms, hailstorms rarely slow down the daily lives of the residents in the region. If their vehicles or homes are damaged, they usually claim those damages on their insurance policies or repair the damage themselves.

When hail occurs, it can cause damage by battering crops, structures, automobiles, and transportation systems. When hailstorms are large, especially when combined with high winds, damage can be somewhat extensive. Hail is also much more common along mountain ranges because mountains force horizontal winds upwards thereby intensifying the updrafts within thunderstorms, where hail is formed, and making hail more likely. In mountainous areas, the falling hail has less time to melt before touching the ground (NSSL NOAA, 2021).

4.4.8.2. Past Occurrence

Even though lightning strike deaths and injuries are rare, they do happen. Between 1959 and 2017, 26 individuals have been killed by lightning in the State of West Virginia, an average of one person every other year (Vaisala, 2017). This puts West Virginia's risk in the bottom half of all states. Furthermore, West Virginia and the Eastern Panhandle have a moderate lightning flash density per year compared to other states. As seen in Figure 4-32, the density of lightning strikes the Eastern Panhandle experiences each year is 0.1 to 4 per square kilometer, compared to over 12 flashes per square kilometer in some parts of Florida (Vaisala, 2021).

Figure 4-32: U.S. Cloud-to-Ground Flash Density 2020 (Vaisala, 2021)



Records from the NCEI show that there were 89 lightning events in the 55 counties across West Virginia between 1950 and 2021 with 5 occuring in Jefferson County. A lightning "event" is defined as a lightning strike that results in fatality, injury, and/or property or crop damage (NOAA NWS, 2021).

There have been several hazardous hailstorms reported in the region. According to NCDC Event Records, 63 hail events of 0.5 inch or greater have been reported in Jefferson County since 1968. The largest reported hail in the area occurred during a hailstorm in Morgan County on May 6, 2002. It produced hail the size of a baseball, 2.75 inches in diameter (NCDC, 2021). Hail events from both 1968 to present for the county can be viewed in Table 4-37. Damages from these events totaled $10,000.00.

Table 4-37: Hail Events in Jefferson County 1968-2023

Location	Date	Magnitude	Property Damage ($)	Location	Date	Magnitude	Property Damage ($)
JEFFERSON CO	7/10/1975	1.75	0	HARPERS FERRY	8/14/2008	0.75	0
JEFFERSON CO	6/16/1982	0.75	0	HARPERS FERRY	8/14/2008	0.88	0
JEFFERSON CO	5/16/1988	1.75	0	BOLIVAR	8/14/2008	0.75	0
JEFFERSON CO	6/9/1990	1	0	KEARNEYSVILLE	4/25/2010	1	0
JEFFERSON CO	9/18/1991	1	0	HALLTOWN	4/25/2010	1	0
JEFFERSON CO	8/11/1992	0.75	0	MT PLEASANT	4/25/2010	1	0
JEFFERSON CO	8/11/1992	0.75	0	MECHANICSTOWN	4/25/2010	1	0
JEFFERSON CO	4/1/1993	0.88	0	MIDDLEWAY	4/25/2010	1	0
CHARLES TOWN	5/12/1993	1.75	0	KEARNEYSVILLE	05/26/2011	1	0
HARPERS FERRY	8/17/1993	1.25	5000	MIDDLEWAY	6/21/2011	1	0
JEFFERSON CO	5/29/1995	0.75	0	MIDDLEWAY	7/11/2011	1	0
JEFFERSON CO	7/10/1995	0.88	0	LEETOWN	9/14/2011	1	0
KABLETOWN	7/25/1999	1	0	SHEPHERDSTOWN	5/3/2012	1	0

Table 4-37: Hail Events in Jefferson County 1968-2023

Location	Date	Magnitude	Property Damage ($)	Location	Date	Magnitude	Property Damage ($)
SHEPHERDSTOWN	5/10/2000	1	0	SHEPHERDSTOWN	6/7/2012	1	0
SUMMIT PT	5/13/2000	1.25	0	BOLIVAR	7/8/2012	1	0
SHEPHERDSTOWN	7/14/2000	1	0	MT PLEASANT	6/23/2015	1	0
SHEPHERDSTOWN	7/16/2000	1.75	0	CHARLES TOWN	6/16/2016	1	0
KEARNEYSVILLE	5/26/2002	2.75	0	MT PLEASANT	5/18/2017	1	0
SHEPHERDSTOWN	5/26/2002	1.75	0	CHARLES TOWN ARPT	5/10/2018	1	0
HARPERS FERRY	6/14/2003	0.75	0	MT PLEASANT	5/14/2018	1.75	0
HARPERS FERRY	8/26/2003	0.75	0	MIDDLEWAY	5/14/2018	1.5	0
RANSON	5/23/2004	0.75	0	CHARLES TOWN ARPT	5/14/2018	1	0
HARPERS FERRY	5/25/2004	1.75	5000	CHARLES TOWN	5/14/2018	2.5	0
HARPERS FERRY	7/28/2007	0.88	0	MANNINGS	5/14/2018	1.75	0
SUMMIT PT	8/25/2007	1	0	CHARLES TOWN	5/14/2018	1	0
CHARLES TOWN	6/10/2008	0.75	0	SHEPHERDSTOWN	6/2/2019	1	0
BARDANE	6/23/2008	0.75	0	SHEPHERDSTOWN	6/2/2019	0.75	0
MECHANICSTOWN	6/28/2008	0.75	0	SHEPHERDSTOWN	6/2/2019	0.75	0
MECHANICSTOWN	7/26/2008	0.88	0	CHARLES TOWN ARPT	6/2/2019	0.88	0
BOLIVAR	7/26/2008	1	0	HARPERS FERRY	6/2/2019	0.75	0
MIDDLEWAY	8/10/2008	0.75	0	HARPERS FERRY	6/2/2019	1	0
MANNINGS	8/14/2008	0.75	0				

The most recent occurrence of sizeable hail was reported in Charles Town on May 14, 2018, with hail up to 2.5 inches in diameter. No damages were claimed. The most recent hail occurrence that caused property damage in the county is from Harpers Ferry in 2004, which resulted in $5,000 in losses.

4.4.8.3. Future Occurrence

Lightning strikes the earth about 100 times every second. Each year in the United States, approximately 400 people are struck (about one for every 86,000 lightning flashes in the U.S.), and 17,400 fires are caused by lightning. July is the peak month for lightning strikes in the United States. The probability of a lightning strike on a given building is a function of the object's lightning-attractive area (e.g., a tall metal pole is more likely to be struck by lightning than a shorter non-conductive objects).

The future occurrence of lightning and thunderstorm activity in Jefferson County is anticipated, and the susceptibility to damage from these severe storms will remain unchanged. The number of lightning events is influenced by the frequency of a severe thunderstorm occurrence. Therefore, potential future changes in climate and weather conditions may impact the future occurrences of lightning strike.

The future occurrence of hailstorm activity in Jefferson County is expected, and the susceptibility to damage from hail will remain unchanged. The past occurrences in the region indicate that this event is one that can happen several times in any given year, most likely during the late spring and summer months. However, the probability of hailstorm events resulting in multiple casualties and extensive structural damage can be considered unlikely, while the probability of nondamaging hail can be considered possible, according to the Risk Factor Methodology.

4.4.8.4. Range of Magnitude

Because lightning damage is largely unreported, statistics vary considerably. The insurance industry, however, estimates 6.5 percent of all property/casualty claims are related to lightning strikes (Credit Union National Association, 2015). While it is difficult to quantify lightning losses, it is estimated that $4-5 billion damage occurs each year. Likewise, the cost of lightning protection to safeguard critical equipment and facilities from lightning strikes during severe weather is enormous. In statistics kept from 1997-2012, West Virginia was reported as having an average of 210,169 cloud-to-ground flashes per year (NWS, 2016). The worst-case scenario for casualties from a lightning strike is envisioned to occur during a capacity sports game, crowded outdoor festival, or another outdoor event with a dense crowd. While to date there have been few casualties in the United States from direct lightning strikes to dense groups of people or from the mass movement of panicked individuals when lightning threatens, it is important to recognize this potential, albeit extremely low risk, event. Other worst-case scenarios could involve thunderstorms leading to car crashes, downed trees, and mass power outages.

Hail can vary significantly in its size and impact, but to be considered hail frozen precipitation must be greater than 0.2 inches in diameter. Table 4-37 demonstrates the range of reported hail sizes, with severe hail identified as being 1 inch or greater in diameter. The most severe hail experienced by Jefferson County is between 1.5-2.5 inches in diameter (NSSL NOAA, 2021).

Hailstorms can cause significant damage to crops, livestock, and property. Damage is dependent on the size, duration, and intensity of hail precipitation. Automobiles and aircraft are particularly susceptible to damage. Also, people are at risk for serious injury if they do not seek immediate shelter. Since hail precipitation usually occurs during thunderstorm events, the impacts of other hazards associated with thunderstorms (i.e. strong winds, intense precipitation, etc.) often occur simultaneously (NOAA NSSL, 2021).

A potential worst-case scenario of a hailstorm would be if a storm carrying hail of over two inches were to occur over a prolonged period in a predominantly agricultural area. Because hail can cause significant crop damage, a storm of this magnitude would potentially destroy agricultural yields and result in significant lost revenue, as well as property damage and injuries.

Table 4-38: Reference Object Used to Estimate Hail Size and Corresponding Scale of Hail Diameters

Hailstone Size	Measurement (Inches)	Updraft Speed (mph)
BB	< 0.25	< 24
Pea	0.25	24
Marble	0.50	35
Dime	0.70	38
Penny	0.75	40
Nickel	0.88	46
Quarter	1.00	49
Half Dollar	1.25	54
Walnut	1.50	60
Golf Ball	1.75	64
Hen Egg	2.00	69
Tennis Ball	2.50	77
Baseball	2.75	81
Teacup	3.00	84
Grapefruit	4.00	98
Softball	4.50	103

(NSSL NOAA, 2020)

4.4.8.5. Vulnerability Assessment

According to FEMA, vulnerability is a description of which assets, including structures, systems, populations, and other assets as defined by the community, within locations identified to be hazard prone, are at risk from the effects of the identified hazard(s). As part of this plan update, the analysis of vulnerability to community assets was expanded. In addition, impacts from climate change, social vulnerability, and changes in land use have been included. Information has been integrated from FEMA's recently updated National Risk Index, which according to FEMA has changed the way risk is assessed.

Using data and analysis from FEMA's National Risk Index, Jefferson County's risk index is very low compared to other counties to the United States, in fact 45% of U.S. counties have a lower risk index than Jefferson County. The risk index rating for neighboring jurisdictions is relatively low for Berkeley County (West Virginia) and Loudoun County (Virginia), while Clarke County (Virginia) is very low.

Thunderstorm is a hazard that can be said to affect the entire region equally (i.e., all structures in the region are at risk). In many ways, the cascading effects of thunderstorms are more damaging than the storm itself. For example, as mentioned above, lightning strikes may cause power surges that result in damage. Thunderstorm winds may down trees that fall onto personal property. Tracking these types of damages is difficult as many people may not turn such claims into their insurance. Outdoor activities and events are particularly vulnerable to thunderstorms, but when lightning threatens a large outdoor venue, the game or event itself is usually postponed. The environmental impacts most often associated with

lightning strikes include damage to or death of trees and ignition of wildfires. During the years of 2000 – 2020, the NOAA NCEI Storm Events Database reported 64 lightning events in West Virginia which caused two deaths, 17 injuries, property damage of $3,447,000 and $0 in crop damage (NOAA NCEI, 2021).

Losses due to lightning can be lessened by installing surge protection on critical electronic, lightning, or information technology systems. Lightning protection devices and methods, such as lightning rods and grounding, can be installed on a community's communications infrastructure and other critical facilities to reduce losses.

All of Jefferson County, including all critical infrastructure, is vulnerable to the effects of hail, as the storm cells that produce this hazard are spread over a large area. The area of damage due to these storms is relatively small, in that a single storm does not cause widespread devastation but may cause damage in a focused area of the storm. However, stakeholders have reported that hail damage can be especially damaging to tree orchards and other crops. According to the USDA Risk Management Agency (RMA) Federal Crop Insurance Corporation, which provides crop insurance to American farmers, over $2.5 million has been issued to farmers in Jefferson County from 2010 to 2023. Even though not all crops are insured through RMA, these records provide some insight into how damaging hail can be. The National Weather Service and other meteorological forecasters can predict severe hail and warn residents and farmers. Vulnerability will vary by community, and people who are outdoors and property that is not protected by a strong roof will be most vulnerable.

4.4.8.6. People

This section specifically focuses on how people are impacted by the thunderstorm and hail hazard, including underserved communities and socially vulnerable populations. During storm event, people and first responders run the risk of sustaining injuries related to saving people and property. One of the primary health-related concerns is power outages caused by downed trees which impacts people who are reliant on power to run life-sustaining medical equipment; this is an example of a medically and socially vulnerable population.

Socially vulnerable populations are most susceptible due to their physical and financial ability to react and respond during storm events. This population includes the elderly, young, and individuals with disabilities or access or functional needs who may be unable to evacuate in the event of an emergency. The elderly is considered most vulnerable because they require extra time or outside assistance during evacuations and are more likely to seek or need medical attention that might not be readily available due to isolation during a storm event. The vulnerable population also includes those who would not have adequate warning from an emergency warning system (e.g., television or radio); this would include residents and visitors. The population adversely affected by storm events may also include those beyond the disaster area that rely on affected roads for transportation.

Economically disadvantaged people are at high risk for bracing for storm events because of the potential inability to afford up-to-code homes and buildings that are deemed safe from storms passing through.

They also may pose health issues, such as exposure to mold and other health issues that water seepage may cause. These populations may also lack access to vehicles for any necessary evacuations.

4.4.8.7. Structures

Utility infrastructure could suffer damage from high winds associated with falling tree limbs or other debris, resulting in the loss of power. Loss of service can impact residents and business operations alike. Interruptions in heating or cooling utilities can affect populations such as the young and elderly, who are particularly vulnerable to temperature-related health impacts. Loss of power can impact other public utilities, including potable water, wastewater treatment, and communications. In addition to public water services, property owners with private wells might not have access to potable water due to pump failure until power is restored.

4.4.8.8. Systems

Systems in this section refer to networks and capabilities. Storm events often disrupt many systems including power, sewer, water, communications, and road access. Lacking these, it is difficult to continue critical services to the community. Damage to property, facilities, and infrastructure can range from minimal to total loss. The cost of recovery from thunderstorms and hail can vary for everyone. Homeowners and businesses can claim insurance benefits if they have them but may not be able to continue working due to storm-related damages within the community or of their own property.

Overall, all critical facilities are exposed to severe storm events. Transportation routes are vulnerable to severe storms and have the potential to be wiped out or blocked, creating isolation issues from responders. This includes all roads and bridges in the path of a severe storm event. Those that are most vulnerable are those that are already in poor condition and would not be able to withstand high wind speeds and excessive precipitation. Utility infrastructure is also vulnerable; interruption of services may not only impact vulnerable populations but may also impact critical facilities that need to be in operation during a disaster. Because power interruption can occur, backup power is recommended for critical facilities and infrastructure. Full functionality of critical facilities such as police, fire, and medical services is essential for response during and after a severe storm event.

Environmental resources, including critical habitat (or habitats that are known to be essential for an endangered or threatened species), wetlands, parks, and reserves are particularly vulnerable to severe storms. Destroyed habitats could displace and kill organisms reliant on these habitats. The impacts of intense windstorms and precipitation on the environment typically take place over a larger area. Where these events occur, widespread, severe damage to plant species is likely. This includes uprooting or destruction of trees and an increased threat of wildfire in areas where dead trees are not removed.

4.4.8.9. Natural, Historic, and Cultural Resources

Environmental resources, including critical habitat (or habitats that are known to be essential for an endangered or threatened species), wetlands, parks, and reserves are particularly vulnerable to storm events. Destroyed habitats could displace and kill organisms reliant on these habitats. The impacts of high wind, hail and precipitation on the environment typically take place over a larger area. Where these events occur, widespread, severe damage to plant species is likely. This includes uprooting or destruction of trees and an increased threat of wildfire in areas where dead trees are not removed.

Jefferson County is ranked fourth in the State as having the most historical buildings in the high-risk to thunderstorms and hail. Most of these historical buildings are in the towns of Shepherdstown and Harpers Ferry. The unincorporated area of Jefferson County is ranked first among all unincorporated areas in the State of West Virginia with 26 historical buildings.

4.4.8.10. Community Activities

Potential economic impacts include loss of agriculture, business, and tourism. In addition, losses of buildings and infrastructure also take a toll on the economic condition of West Virginia. Similarly, damages to buildings can displace people from their homes, threaten life safety and impact a community's economy and tax base. Severe storms can also damage utilities and communication towers, which are costly because they need to be repaired almost immediately after damages occur, and these repairs can cost millions of dollars to fix for a single event.

Activities that have value to the community could potentially be impacted by thunderstorm events and hail. When these activities are delayed or cancelled due to thunderstorm events and hail, the economy of the community is affected. Numerous activities are scheduled within Jefferson County and its municipalities. Below are community activities that occur throughout the year or annually.

- Jefferson County Fair – July and August at Jefferson County Fairgrounds and weekly farm markets
- Historical Walking Tours of Harpers Ferry, WV – Available All Year (Note four (4) of the National Register Areas within Harpers Ferry are located in the 1-percent-annual chance floodplain.)
- Hollywood Casino Horse Races – Reoccurring – Located in Charles Town
- September 22 - 24 - Mountain Heritage Arts & Craft Festival at Jefferson County Fairgrounds
- October 7 - Freedoms Run (Note: held in in Harpers Ferry & Shepherdstown.)

4.4.9. Severe Wind & Tornado

This profile discusses two types of wind that stem from severe thunderstorms (see Section 3.4.7 Severe Thunderstorms & Hail), severe wind and tornadoes.

Severe Wind: Non-tornadic, damaging winds from thunderstorms include four common types (NWS & FEMA, 2001).

- Straight-Line Winds or Derechos: Winds having little or no curvature or rotation, capable of affecting a larger geographic area than a tornado.
- Downbursts: Localized downward gusts of air from a thunderstorm. These winds can be very damaging on and near the ground and tend to cover areas of just a few miles.
- Microbursts: Minimized downbursts affecting areas less than 2.5 miles in diameter. Microbursts induce a strong wind shear and can produce winds over 150 mph.
- Gust Fronts: Cool, gusty air that flows out of the base of a thunderstorm and spreads along the ground ahead of the thunderstorm cell.

One of the first scales to estimate wind speeds and the effects was created by Britain's Admiral Sir Francis Beaufort (1774-1857). He developed the scale in 1805 to help sailors estimate the winds via visual observations. The scale starts with 0 and goes to a force of 12. The Beaufort scale illustrated in Table 4-39 is still used today to estimate wind strengths (NOAA, n.d.; NOAA, n.d.).

Table 4-39: Beaufort Wind Scale

Force	Wind Speed			Appearance of Wind Effects	
	(mph)	(knots)	Description	On the Water	On Land
0	0-1	0-1	Calm	Sea surface smooth and mirror-like	Calm, smoke rises vertically
1	1-3	1-3	Light Air	Scaly ripples, no foam crests	Smoke drift indicates wind direction, still wind vanes
2	4-7	4-6	Light Breeze	Small wavelets, crests glassy, no breaking	Wind felt on face, leaves rustle, vanes begin to move
3	8-12	7-10	Gentle Breeze	Large wavelets, crests begin to break, scattered whitecaps	Leaves and small twigs constantly moving, light flags extended
4	13-18	11-16	Moderate Breeze	Small waves 1-4 ft. becoming longer, numerous whitecaps	Dust, leaves, and loose paper lifted, small tree branches move
5	19-24	17-21	Fresh Breeze	Moderate waves 4-8 ft taking longer form, many whitecaps, some spray	Small trees in leaf begin to sway
6	25-31	22-27	Strong Breeze	Larger waves 8-13 ft, whitecaps common, more spray	Larger tree branches moving, whistling in wires
7	32-38	38-33	Near Gale	Sea heaps up, waves 13-19 ft, white foam streaks off breakers	Whole trees moving, resistance felt walking against wind
8	39-46	34-40	Gale	Moderately high (18-25 ft) waves of greater length, edges of crests begin to break into spindrift, foam blown in streaks	Twigs breaking off trees, generally impedes progress

Table 4-39: Beaufort Wind Scale

Force	Wind Speed			Appearance of Wind Effects	
	(mph)	(knots)	Description	On the Water	On Land
9	47-54	41-47	Strong Gale	High waves (23-32 ft), sea begins to roll, dense streaks of foam, spray may reduce visibility	Slight structural damage occurs, slate blows off roofs
10	55-63	48-55	Storm	Very high waves (29-41 ft) with overhanging crests, sea white with densely blown foam, heavy rolling, lowered visibility	Seldom experienced on land, trees broken or uprooted, "considerable structural damage"
11	64-72	56-63	Violent Storm	Exceptionally high (37-52 ft) waves, foam patches cover sea, visibility more reduced	
12	72-83	64-71	Hurricane	Air filled with foam, waves over 45 ft, sea completely white with driving spray, visibility greatly reduced	

Tornado: A tornado is a violently rotating column of air extending from a thunderstorm to the ground. Normally thunderstorms and associated tornadoes develop in warm, moist air in advance of strong eastward-moving cold fronts in late winter and early spring. Tornadoes can also occur along a “dryline” which separates very warm, moist air to the east from hot, dry air to the west. Both of these scenarios are common in the Central Plains. Another way that tornadoes can be created occurs when warm moist air flows upslope. Under the right temperature and moisture conditions, intense thunderstorms can produce tornadoes in higher terrain. Tornadoes can occur in every state, although the mid-west states have by far the greatest potential for this type of event. Tornadoes are ranked by intensity using the Enhanced Fujita (EF) Scale, replacing the original Fujita Scale devised by Dr. Theodore Fujita at the University of Chicago in 1971. The EF scale is broken into six categories from F-0 to F-5. F-0 relates to a tornado having a wind speed up to 72 miles per hour, while an F-5 tornado would have winds up to 318 mph.

4.4.9.1. Location and Extent

Both tornado and windstorm events can occur throughout Jefferson County. Tornado events are usually localized. However, severe thunderstorms may result in conditions favorable to the formation of numerous or long-lived tornadoes. Tornadoes can occur at any time during the day or night but are most frequent during late afternoon into early evening, the warmest hours of the day, and most likely to occur during the spring and early summer months of March through August. Tornado movement is characterized in two ways: direction and speed of spinning winds and forward movement of the tornado, also known as the storm track. Rotational wind speeds of the vortex can range from 100 mph to more than 250 mph. In addition, the speed of forward motion can be zero to 45 or 50 mph. Therefore, some estimates place the maximum velocity (combination of ground speed, wind speed, and upper winds) of tornadoes at about 300 mph.

Severe winds are experienced on a region-wide scale and often accompany tornados and are caused by the movement of air from areas of higher pressure to areas of lower pressure – the greater the difference

in pressure, the stronger the winds. Windstorms are generally defined as sustained wind speeds of 40 mph or greater lasting for one hour or longer, or winds of 58 mph or greater for any duration.

Figure 4-33: Wind Zones of the US (FEMA, 2014)

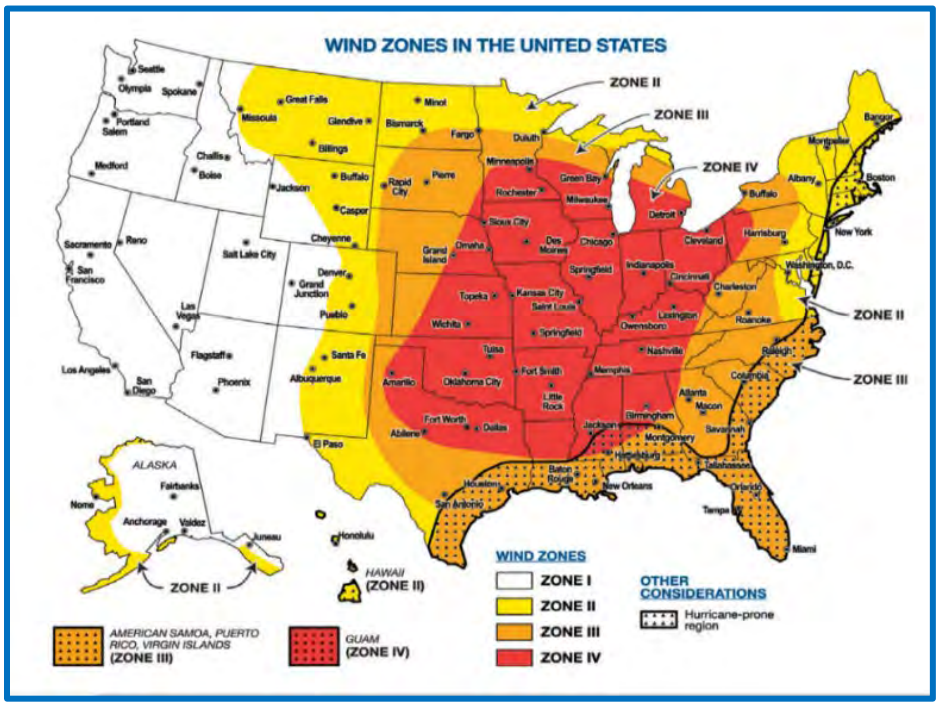


Figure 4-33 shows the wind speed zones developed by the American Society of Civil Engineers based on tornado and hurricane historical events. These wind speed zones are intended to guide the design and evaluation of the structural integrity of shelters and critical facilities. The whole of the Eastern Panhandle falls within Zone III, meaning the region is susceptible to winds up to 200 miles per hour. The whole Eastern Panhandle falls within Zone III, meaning that shelters and critical facilities should be able to withstand a 3-second gust of up to 200 mph, regardless of whether the gust is the result of a tornado, coastal storm, or windstorm event. Therefore, these structures should be able to withstand the wind speeds experienced in an F3 tornado event.

4.4.9.2. Past Occurrence

There have been five tornado events in Jefferson County since 1990, as seen in Table 4-40. They have all occurred between the months of May and September, and two tornados have inflicted injuries on the Jefferson County population since 1990. The first one occurred on July 2, 1997 and injured four people. The second one spawned by the Hurricane Ivan weather system on September 17, 2004, injured one person. The most severe documented tornado occurrence in the area had an F1 magnitude. The damage it caused was described in the 2013 WV Statewide HMP, stating that the tornado caused extensive damage to house and businesses and overturned vehicles on I-81. The path of this tornado can be seen in Figure 4-34 alongside other tornadoes in the region.

Hurricane Ivan resulted in the most recent severe tornadoes identified in the region. However, a recent severe windstorm did occur on May 3, 2021. Severe winds swept through the Eastern Panhandle, displacing several families. The National Weather Service confirmed a tornado hit Ranson, WV with peak winds at 90 mph. Emergency Officials reported severe damage in the Ranson area as well as the areas of Bunker Hill and Inwood in neighboring Berkeley County. A list of other hazardous windstorms from 1991 to March 2023 can be seen in Table 4-40.

Figure 4-34: Tornado Tracks of Hurricane Ivan (Prociv, 2004)

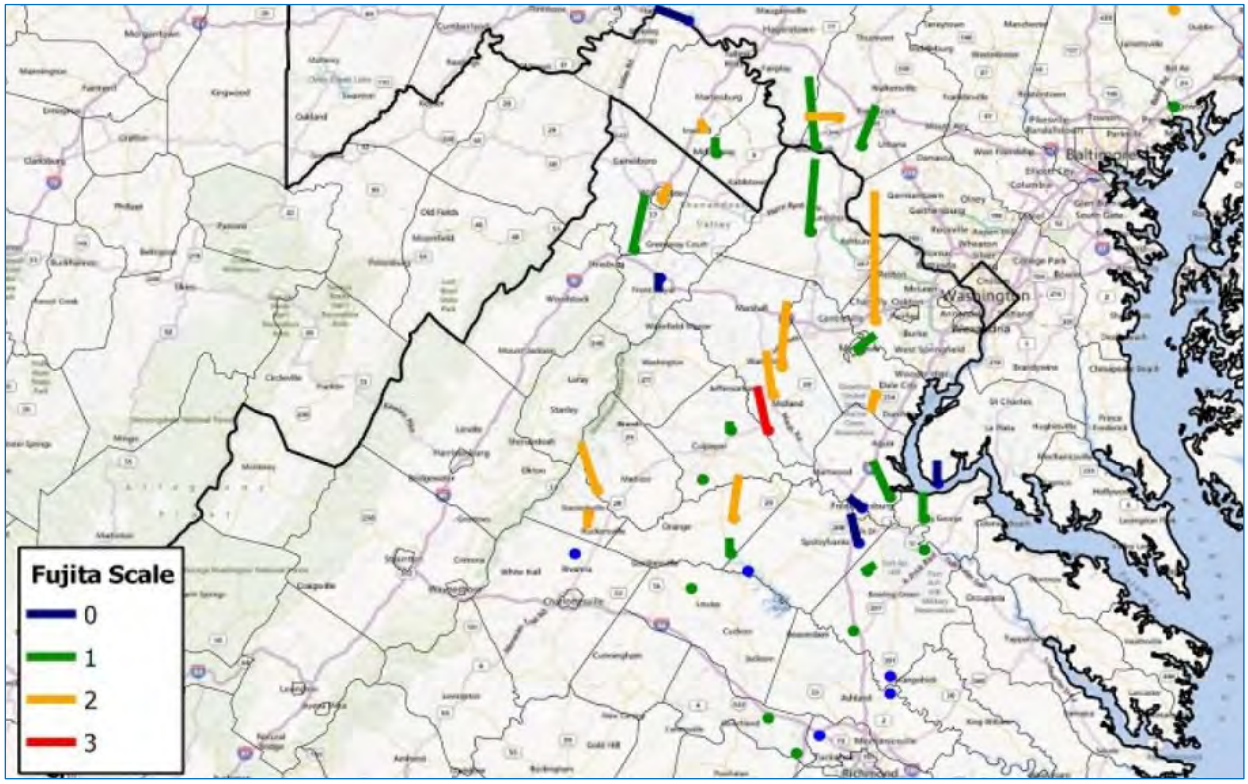
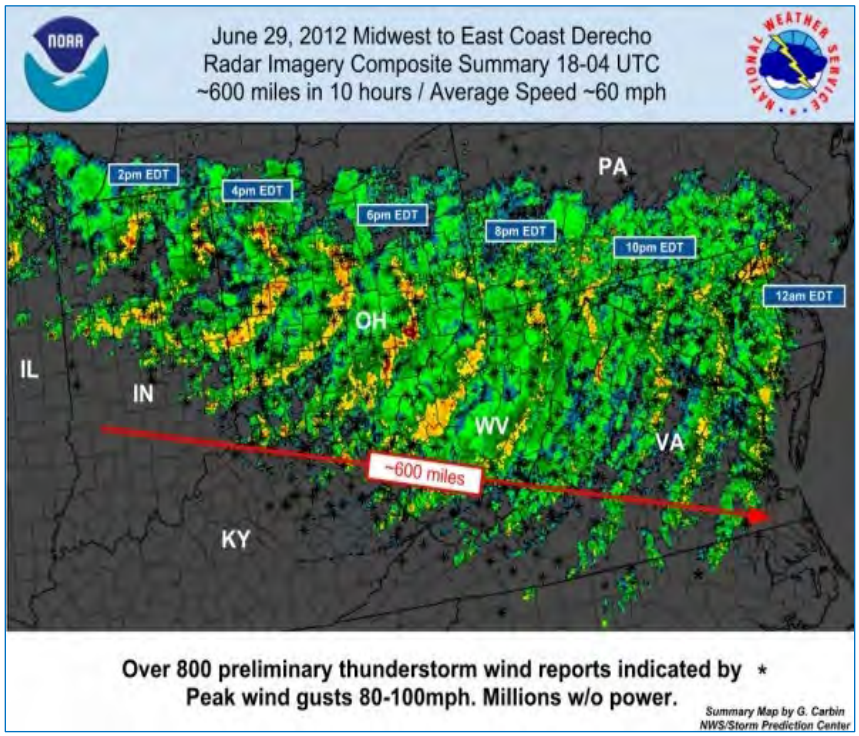


Figure 4-35: 6/29/12 Derecho Windstorm



On June 29, 2012, a type of violent windstorm system, called a derecho, moved eastward impacting Indiana, Ohio, West Virginia, Virginia, Washington DC, Maryland, and part of New Jersey, as seen in Figure 4-35. The storm carried thunder and wind gusts ranging between 60 and 100 mph. Thirteen people were killed as a result of this windstorm, three in West Virginia, with widespread power outages across the impacted area leaving 1.6 million people without power. Damages from the storm were reported in the Eastern Panhandle. Meteorologists theorize that the derecho event occurred in part thanks to the above average temperatures being experienced across the impacted region, which helped to fuel the storm (Daniel, 2012).

Table 4-40: Tornado Events Jefferson County, 1990 – March 2023, (NCEI NOAA, 2023)

Location	Date	Magnitude	Property Damage ($)	Crop Damage ($)	Injuries
Unknown (State Plan)	7/2/1997	F0	250,000	0	4
Summit Point (NCEI)	7/9/2003	F0	0	0	0
Middleway (NCEI)	9/17/2004	F1	250,000	0	0
Charles Town (NCEI)	7/5/2017	EF0	0	0	0
Charles Town (NCEI)	5/3/2021	EF1	100,000	0	1

In addition to tornadoes, Jefferson County has also endured considerable damage from countless hazardous wind events, shown in Table 4-41.

Table 4-41: Hazardous Wind Events in Jefferson County, 1990 – March 2023

Date	Type	Wind Speed (Knots)	Injuries	Property Damage ($)	Crop Damage ($)	Date	Type	Wind Speed (Knots)	Injuries	Property Damage ($)	Crop Damage ($)
4/9/91	T-Storm Wind	50	0	0	0	6/12/11	T-Storm Wind	56	0	3000	0
1/14/92	T-Storm Wind	53	0	0	0	7/11/11	T-Storm Wind	56	0	500	0
3/10/92	T-Storm Wind	0	0	0	0	7/11/11	T-Storm Wind	61	0	100000	0
7/17/92	T-Storm Wind	0	0	0	0	7/11/11	T-Storm Wind	61	0	5000	0
7/23/92	T-Storm Wind	0	0	0	0	7/11/11	T-Storm Wind	56	0	5000	0
4/16/93	T-Storm Wind	0	0	5000	0	7/19/11	T-Storm Wind	52	0	1000	0
8/17/93	T-Storm Wind	0	0	5000	0	7/19/11	T-Storm Wind	56	0	2000	0
8/13/94	T-Storm Wind	0	0	500	0	9/14/11	T-Storm Wind	52	0	0	0
9/13/94	T-Storm Wind	0	0	500	0	5/27/12	T-Storm Wind	52	0	0	0
11/1/94	T-Storm Wind	0	0	5000	0	6/29/12	T-Storm Wind	60	0	0	0
4/9/95	T-Storm Wind	0	0	0	0	6/29/12	T-Storm Wind	61	0	10000	0
6/3/95	T-Storm Wind	0	0	3000	0	6/29/12	T-Storm Wind	57	0	5000	0
6/11/95	T-Storm Wind	0	0	0	0	6/29/12	T-Storm Wind	57	0	1000	0
7/6/95	T-Storm Wind	0	0	25000	0	10/29/12	High Wind	52	0	0	10000
7/10/95	T-Storm Wind	0	0	10000	0	5/22/13	T-Storm Wind	52	0	1000	500
7/16/95	T-Storm Wind	0	0	15000	0	6/10/13	T-Storm Wind	52	0	0	250
7/30/96	T-Storm Wind	-	0	10000	0	6/24/13	T-Storm Wind	52	0	5000	500
9/6/96	High Wind	-	0	50000	25000	6/25/13	T-Storm Wind	52	0	500	500
3/6/97	Strong Wind	-	0	0	0	6/25/13	T-Storm Wind	52	0	0	500
3/31/97	Strong Wind	-	0	15000	0	6/25/13	T-Storm Wind	52	0	0	500
6/26/97	T-Storm Wind	-	0	25000	0	6/25/13	T-Storm Wind	52	0	0	500
7/28/97	T-Storm Wind	-	0	3000	0	7/7/13	T-Storm Wind	52	0	0	250

Table 4-41: Hazardous Wind Events in Jefferson County, 1990 – March 2023											
Date	Type	Wind Speed (Knots)	Injuries	Property Damage ($)	Crop Damage ($)	Date	Type	Wind Speed (Knots)	Injuries	Property Damage ($)	Crop Damage ($)
2/24/98	Strong Wind	-	0	0	0	7/2/14	T-Storm Wind	52	0	1000	1000
6/13/98	T-Storm Wind	56	0	20000	0	7/2/14	T-Storm Wind	52	0	3000	500
6/16/98	T-Storm Wind	-	0	5000	0	7/2/14	T-Storm Wind	52	0	0	1000
7/21/98	T-Storm Wind	71	0	35000	15000	7/2/14	T-Storm Wind	52	0	0	250
3/3/99	T-Storm Wind	-	0	3000	0	7/2/14	T-Storm Wind	52	0	2000	2000
5/12/99	T-Storm Wind	-	0	500	0	7/2/14	T-Storm Wind	52	0	1000	250
7/24/99	T-Storm Wind	-	0	5000	0	7/8/14	T-Storm Wind	52	0	0	250
7/28/99	T-Storm Wind	-	0	3000	0	7/13/14	T-Storm Wind	52	0	0	250
8/26/99	T-Storm Wind	-	0	4000	0	7/13/14	T-Storm Wind	52	0	0	500
9/29/99	T-Storm Wind	-	1	40000	0	7/13/14	T-Storm Wind	52	0	0	250
5/10/00	T-Storm Wind	-	0	2000	0	7/13/14	T-Storm Wind	52	0	0	250
5/13/00	T-Storm Wind	-	0	500	0	7/13/14	T-Storm Wind	52	0	0	250
5/13/00	T-Storm Wind	-	0	5000	0	7/13/14	T-Storm Wind	52	0	0	500
5/13/00	T-Storm Wind	-	1	2000	0	7/23/14	T-Storm Wind	52	0	0	500
5/13/00	T-Storm Wind	-	0	2000	0	7/23/14	T-Storm Wind	52	0	0	1000
6/15/00	T-Storm Wind	-	0	1000	0	9/6/14	T-Storm Wind	52	0	0	250
7/14/00	T-Storm Wind	-	0	500	0	5/16/15	T-Storm Wind	50	0	1000	0
8/9/00	T-Storm Wind	-	0	2000	0	5/16/15	T-Storm Wind	50	0	1000	0
12/12/00	Strong Wind	-	0	0	0	6/30/15	T-Storm Wind	52	0	2000	0
12/17/00	Strong Wind	-	0	0	0	8/4/15	T-Storm Wind	52	0	1000	0
1/27/01	Strong Wind	-	0	0	0	4/2/16	High Wind	50	0	0	0
2/9/01	Strong Wind	-	0	0	0	6/16/16	T-Storm Wind	50	0	0	0
3/6/01	Strong Wind	-	0	0	0	8/15/16	T-Storm Wind	50	0	0	0
3/13/01	T-Storm Wind	-	0	10000	0	8/15/16	T-Storm Wind	50	0	0	0

Table 4-41: Hazardous Wind Events in Jefferson County, 1990 – March 2023											
Date	Type	Wind Speed (Knots)	Injuries	Property Damage ($)	Crop Damage ($)	Date	Type	Wind Speed (Knots)	Injuries	Property Damage ($)	Crop Damage ($)
3/13/01	T-Storm Wind	-	0	2000	0	9/7/16	T-Storm Wind	50	0	0	0
3/13/01	T-Storm Wind	-	0	30000	0	2/12/17	High Wind	52	0	0	0
6/12/01	T-Storm Wind	-	0	500	0	3/1/17	T-Storm Wind	52	0	0	0
6/30/01	T-Storm Wind	-	0	500	0	3/1/17	T-Storm Wind	52	0	0	0
2/1/02	Strong Wind	-	0	0	0	7/22/17	T-Storm Wind	50	0	0	0
3/21/02	Strong Wind	-	0	0	0	7/22/17	T-Storm Wind	50	0	0	0
4/28/02	T-Storm Wind	-	0	5000	0	7/22/17	T-Storm Wind	50	0	0	0
4/28/02	T-Storm Wind	-	0	20000	0	8/3/17	T-Storm Wind	50	0	0	0
5/14/02	T-Storm Wind	-	0	10000	0	8/12/17	T-Storm Wind	50	0	0	0
5/14/02	T-Storm Wind	-	0	5000	0	3/2/18	High Wind	50	0	0	0
5/26/02	T-Storm Wind	-	0	10000	0	5/14/18	T-Storm Wind	50	0	0	0
6/6/02	T-Storm Wind	-	0	5000	0	5/14/18	T-Storm Wind	50	0	0	0
6/6/02	T-Storm Wind	-	0	2000	0	7/27/18	T-Storm Wind	50	0	0	0
7/9/02	T-Storm Wind	-	0	5000	0	8/17/18	T-Storm Wind	50	0	0	0
9/27/02	T-Storm Wind	50	0	2000	0	8/21/18	T-Storm Wind	50	0	0	0
1/8/03	Strong Wind	40	0	100	0	**2023 Plan Update**					
2/23/03	Strong Wind	30	0	100	0	6/27/19	High Wind	50	0	0	0
6/1/03	Strong Wind	40	0	1000	0	6/27/19	T-Storm Wind	50	0	0	0
6/12/03	T-Storm Wind	50	0	2000	0	6/29/19	T-Storm Wind	61	0	0	0
7/4/03	T-Storm Wind	50	0	500	0	6/29/19	T-Storm Wind	50	0	0	0
7/6/03	T-Storm Wind	50	0	2000	0	6/29/19	T-Storm Wind	50	0	0	0
8/22/03	T-Storm Wind	50	0	2000	0	6/29/19	T-Storm Wind	50	0	0	0
8/26/03	T-Storm Wind	55	0	5000	0	7/22/19	T-Storm Wind	61	0	0	0
9/18/03	High Wind	50	1	300000	50000	7/22/19	T-Storm Wind	50	0	0	0

Table 4-41: Hazardous Wind Events in Jefferson County, 1990 – March 2023											
Date	Type	Wind Speed (Knots)	Injuries	Property Damage ($)	Crop Damage ($)	Date	Type	Wind Speed (Knots)	Injuries	Property Damage ($)	Crop Damage ($)
10/15/03	Strong Wind	44	0	3000	0	8/6/19	T-Storm Wind	50	0	0	0
11/13/03	Strong Wind	45	0	3000	0	8/22/19	T-Storm Wind	50	0	0	0
5/21/04	T-Storm Wind	55	0	0	0	9/2/19	T-Storm Wind	50	0	0	0
5/21/04	T-Storm Wind	53	0	3000	0	3/3/20	T-Storm Wind	50	0	0	0
5/21/04	T-Storm Wind	55	0	2000	0	3/3/20	T-Storm Wind	56	0	3000	0
5/21/04	T-Storm Wind	53	0	2000	0	3/3/20	T-Storm Wind	56	0	20000	0
6/1/04	T-Storm Wind	55	0	5000	0	4/7/20	T-Storm Wind	56	0	3000	0
11/24/05	Strong Wind	40	0	100000	0	4/7/20	T-Storm Wind	60	0	30000	0
11/29/05	T-Storm Wind	50	0	100000	0	4/13/20	T-Storm Wind	60	0	30000	0
1/14/06	T-Storm Wind	60	0	100000	0	4/13/20	T-Storm Wind	50	0	0	0
1/14/06	High Wind	50	0	100000	0	5/29/20	T-Storm Wind	50	0	0	0
6/22/06	T-Storm Wind	50	0	10000	0	6/5/20	T-Storm Wind	55	0	10000	0
7/12/06	T-Storm Wind	50	0	13000	0	6/25/20	T-Storm Wind	50	0	5000	0
8/26/06	T-Storm Wind	50	0	27000	0	7/6/20	T-Storm Wind	50	0	1000	0
12/1/06	Strong Wind	45	0	10000	0	7/6/20	T-Storm Wind	65	0	50000	0
5/27/07	T-Storm Wind	50	0	1000	0	7/22/20	T-Storm Wind	50	0	5000	0
6/13/07	T-Storm Wind	50	0	3000	0	9/3/20	T-Storm Wind	50	0	2000	0
6/21/07	T-Storm Wind	50	0	1000	0	11/15/20	T-Storm Wind	50	0	2000	0
7/28/07	T-Storm Wind	50	0	2000	0	5/3/21	T-Storm Wind	55	0	20000	0
7/29/07	T-Storm Wind	50	0	0	0	5/3/21	T-Storm Wind	50	0	3000	0
12/16/07	High Wind	50	0	0	0	5/3/21	T-Storm Wind	50	0	1000	0
2/10/08	High Wind	50	0	25000	0	5/3/21	T-Storm Wind	50	0	1000	0
5/31/08	T-Storm Wind	50	0	1000	0	5/26/21	T-Storm Wind	55	0	10000	0
6/4/08	T-Storm Wind	70	0	20000	0	5/26/21	T-Storm Wind	65	0	25000	0

Table 4-41: Hazardous Wind Events in Jefferson County, 1990 – March 2023											
Date	Type	Wind Speed (Knots)	Injuries	Property Damage ($)	Crop Damage ($)	Date	Type	Wind Speed (Knots)	Injuries	Property Damage ($)	Crop Damage ($)
6/4/08	T-Storm Wind	70	0	20000	0	6/3/21	T-Storm Wind	55	0	3000	0
6/4/08	T-Storm Wind	74	0	0	0	6/21/21	T-Storm Wind	50	0	2000	0
6/4/08	T-Storm Wind	70	0	75000	0	6/21/21	T-Storm Wind	50	0	4000	0
6/4/08	T-Storm Wind	50	0	1000	0	6/21/21	T-Storm Wind	50	0	3000	0
6/4/08	T-Storm Wind	50	0	5000	0	6/30/21	T-Storm Wind	50	0	2000	0
6/4/08	T-Storm Wind	50	0	8000	0	7/12/21	T-Storm Wind	45	0	1000	0
6/16/08	T-Storm Wind	50	0	4000	0	7/12/21	T-Storm Wind	50	0	1500	0
6/28/08	T-Storm Wind	50	0	8000	0	7/17/21	T-Storm Wind	50	0	5000	0
6/28/08	T-Storm Wind	50	0	8000	0	8/10/21	T-Storm Wind	55	0	3000	0
7/23/08	T-Storm Wind	50	0	1000	0	8/10/21	T-Storm Wind	50	0	1000	0
2/11/09	T-Storm Wind	52	0	0	0	8/10/21	T-Storm Wind	50	0	1000	0
2/11/09	T-Storm Wind	50	0	0	0	8/11/21	T-Storm Wind	50	0	1000	0
2/12/09	High Wind	50	0	0	0	8/13/21	T-Storm Wind	50	0	1000	0
8/21/09	T-Storm Wind	52	0	0	0	8/13/21	T-Storm Wind	50	0	20000	0
2/26/10	High Wind	50	0	0	0	8/13/21	T-Storm Wind	55	0	12000	0
7/25/10	T-Storm Wind	70	0	10000	0	8/25/21	T-Storm Wind	50	0	1000	0
7/25/10	T-Storm Wind	62	0	10000	0	8/28/21	T-Storm Wind	50	0	6000	0
11/16/10	T-Storm Wind	61	0	0	0	6/16/22	T-Storm Wind	50	0	2000	0
11/16/10	T-Storm Wind	61	0	0	0	6/22/22	T-Storm Wind	50	0	1000	0
11/16/10	T-Storm Wind	61	0	0	0	6/22/22	T-Storm Wind	55	0	10000	0
11/17/10	T-Storm Wind	56	0	10000	0	7/1/22	T-Storm Wind	55	0	10000	0
2/25/11	High Wind	50	0	0	0	8/4/22	T-Storm Wind	50	0	1000	0
3/10/11	T-Storm Wind	50	0	500	0	9/25/22	T-Storm Wind	43	0	1000	0
6/12/11	T-Storm Wind	52	0	1000	0	3/23/23	T-Storm Wind	52	0	2000	0

Table 4-41: Hazardous Wind Events in Jefferson County, 1990 – March 2023											
Date	Type	Wind Speed (Knots)	Injuries	Property Damage ($)	Crop Damage ($)	Date	Type	Wind Speed (Knots)	Injuries	Property Damage ($)	Crop Damage ($)
6/12/11	T-Storm Wind	56	0	1000	0		T-Storm Wind	52	0	3000	0

(NOAA, 2023)

4.4.9.3. Future Occurrence

For the period between 1990 and March 2023, four tornadoes were reported in Jefferson County by NCEI. Therefore, the annual probability of being in the path of a tornado in the region is relatively minor. While the chance of being hit by a tornado is small, the damage that results when the tornado arrives can be potentially devastating. An F4 tornado, with a 0.01-percent-annual probability of occurring, can carry wind velocities of 200 mph, resulting in a force of more than 100 pounds per square foot of surface area. This is a "wind load" that exceeds the design limits of most buildings. While most of the recent windstorms and tornadoes have occurred outside of the county, their proximity contributes to future risk. Because more windstorms have been seen in the region, it is possible that an increasing number of tornadoes will be seen in Jefferson County.

According to these NCEI records, there have been 237 hazardous wind events in Jefferson County. The region experiences severe windstorm events more commonly than tornadoes, which causes power failures, loss of communication networks, and residents requiring temporary shelters and provision of supplies.

4.4.9.4. Range of Magnitude

The destruction caused by tornadoes ranges from light to inconceivable depending on the intensity, size, and duration of the storm. Typically, tornadoes cause the greatest damages to structures of light construction such as mobile homes. The impact of tornado hazards is ultimately dependent on the population or amount of property present in the area in which the tornado occurs. Tornado events are often so severe that property loss or human fatality is typically inevitable if evacuation or proper construction standards are not implemented.

Table 4-42: Enhanced Fujita Scale Categories with Associated Wind Speeds and Expected Damage

Ef-Scale Number	Wind Speed (mph)	F-Scale Number	Type of Damage Possible
EF0	65–85	F0-F1	**Minor damage**: Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over. Confirmed tornadoes with no reported damage (i.e., those that remain in open fields) are always rated EF0.
EF1	86-110	F1	**Moderate damage**: Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
EF2	111–135	F1-F2	**Considerable damage**: Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
EF3	136–165	F2-F3	**Severe damage**: Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.
EF4	166–200	F3	**Devastating damage**: Well-constructed houses and whole frame houses completely leveled; cars thrown and small missiles generated.
EF5	>200	F3-F6	**Extreme damage**: Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 m (300 ft.); steel reinforced concrete structure badly damaged; high-rise buildings have significant structural deformation.

Since 2007, enhanced Fujita Tornado Scale (or the -EF-Scale) has been used in the United States to describe the magnitude of tornadoes. Prior to 2007, the Fujita Scale (F-Scale) was commonly used to describe magnitude. This scale is based on new information about the relationship between wind speed given in miles per hour (mph) and corresponding damage. The EF Scale categorized tornadoes from EF0 to EF5 with EF0 being the most commonly occurring type of tornado. Table 4-42 shows the enhanced Fujita Tornado Scale and associated damages.

Since tornado and severe wind events are typically localized, environmental impacts are rarely widespread. However, where these events occur, severe damage to buildings and plant species is likely. This includes loss of trees and an increased threat of wildfire in areas where dead trees are not removed. Hazardous material facilities should meet design requirements to withstand a 3-second gust of up to 160 mph in order to prevent release of hazardous materials into the environment.

The worst-case scenario for windstorm and tornado events in Jefferson County would be an EF5 tornado that strikes the Charles Town area. This is the most densely developed and populated area in the county and a severe tornado here could cause maximum property damage and casualties. Most tornadoes only remain on the ground for around 5 minutes and travel a few miles, but some have tornadoes have remained grounded for over an hour and traveled 70 miles. An EF5 tornado can level houses, throw cars,

and deform reinforced or high-rise buildings. An event of this severity is exceptionally unlikely to occur and represents an extreme scenario only, but the possibility should be considered. More typical wind hazard events in Jefferson County involve tree and limb damage, with fallen trees and limbs possibly resulting in damage to nearby vehicles or structures.

4.4.9.5. Vulnerability Assessment

For tornadoes or high winds, aged and dilapidated structures or structures not built to applicable building codes are more susceptible to damage. Mobile homes and campgrounds are especially susceptible to damage due to tornadoes or high wind. Strong winds can rip roofs off any dilapidated structures and overturn mobile homes. Past experiences with tornadoes in the region show that, while rare, death and injury are indeed possibilities. Vulnerability to the effects of a tornado or high wind is somewhat dependent upon the age of a structure because as building codes become more stringent, buildings are capable of enduring greater wind forces.

In Jefferson County, high winds occur almost annually. The most common detrimental effects are interruptions in power supply and communications services due to downed wires and blocked roadways due to downed trees. Most severe power failures or outages are regional events. With the loss of power, electrical-powered equipment and systems will not be operational. Examples include lighting, HVAC and ancillary support equipment, communication systems, ventilation system, refrigerators, sterilizers, and medical equipment. This can cause food spoilage, loss of heat or air conditions, basement flooding (sump pump failure), lack of light, loss of water (well pump failure), lack of phone service, or lack of internet. While it is most often a short-term nuisance rather than a catastrophic hazard, utility interruptions can cause challenges for communications and response, particularly in more rural areas of the county. A worst-case scenario for utility interruption in the region would involve a power outage during winter snow or ice storms, which have the potential to cause power outages for prolonged periods of time.

High winds often occur during hurricanes and tropical storms. Information about potential annualized losses due to hurricane winds can be found in Section 3.5.3.

All structures and infrastructure might be exposed to the effects of a tornado or other high winds. Depending upon the severity of a tornado or high wind, any existing structures might be damaged to some extent. Any future structures might be exposed to tornados or high winds as this hazard does not occur in specific locations. However, future buildings will be somewhat protected from the effects of tornado or high wind as they will meet the most current State building code requirements for bracing and roof design.

Manufactured housing (i.e. mobiles homes or trailers) is particularly vulnerable to high winds and tornadoes. The U.S. Census Bureau defines manufactured homes as “movable dwellings, eight feet or wider and 40 feet or longer, design to be towed on its own chassis, with transportation gear integral to the unit when it leaves the factory, and without need of a permanent foundation (U.S. Census Bureau, 2021).” They can include multi-wide and expandable manufactured homes but exclude travel trailers,

motor homes, and modular housing. Due to their lightweight and often unanchored design, manufactured housing is extremely vulnerable to high winds and will generally sustain the most damage.

Table 4-43 below displays the number of manufactured housing units in Jefferson County, which account for a little more than 6% of the area's housing stock.

Table 4-43: Manufactured Homes in Jefferson County (U.S. Census Bureau, 2021b)

Total Housing Units	Number Mobile Homes	Percent Mobile Homes
23,607	1,448	6.1%

According to the NOAA Storm Events Database, Jefferson County has reported $2,235,000 in property damages due to tornados and extreme wind events, and $112,000 in crop damage from wind events (NOAA NCEI, 2023).

4.4.9.6. People

For the purpose of this plan, the entire population of Jefferson County is exposed to the severe windstorm and tornado hazards. Residents may be displaced or require temporary and long-term housing and sheltering. In addition, damages caused by a severe windstorm or tornado can lead to severe injuries and loss of life.

Socially vulnerable populations are most susceptible due to their physical and financial ability to react and respond during severe wind events and tornadoes. This population includes the elderly, young, and individuals with disabilities or access or functional needs who may be unable to evacuate in the event of an emergency. The elderly is considered most vulnerable because they require extra time and are more likely to seek or need medical attention that might not be readily available due to isolation during a storm event.

Vulnerable population also includes those who would not have adequate warning from an emergency warning system (e.g., television or radio); this would include residents and visitors. The population adversely affected by severe storms may also include those beyond the disaster area that rely on affected roads for transportation.

Economically disadvantaged people are at high risk for bracing severe wind events and tornadoes because of the potential inability to afford up-to-code homes and buildings that are deemed safe. They also may pose health issues, such as exposure to mold and other health issues that water seepage may cause.

In 2021, nearly 1,500 manufactured homes resided in Jefferson County. As mentioned previously, manufactured housing is more susceptible to physical deterioration from tornadoes and severe wind events than more secure structures. Still, severe wind events have caused considerable damage to

structures considered "well-constructed," meaning that every person within proximity of the hazard faces varying levels of harm.

Severe wind events and tornadoes can also cause respiratory illnesses or exacerbate their negative impacts on human health. In addition, tornadoes can knock down trees or structures, which can cause severe injury or death.

In 2018, Jefferson County residents identified severe wind events and tornadoes are one of their top hazard concerns. Often, tornado events require people to take shelter in sturdy structure or to evacuate the area, so not having the access to one can further endanger the population. Unfortunately, lacking the adequate resources to seek safety can cause anxiety in vulnerable populations on top of the dangers severe wind events and tornadoes already pose.

4.4.9.7. Structures

To understand risk, a community must evaluate what assets are exposed and vulnerable in the identified hazard area. For severe wind events and tornadoes, the entirety of Jefferson County has been identified as the hazard area. Therefore, all assets in the County (population, structures, critical facilities, and lifelines), are vulnerable.

The most vulnerable structures during severe wind events or tornadoes include manufactured housing, historic buildings, and general structure finishings.

4.4.9.8. Systems

Overall, all critical facilities are exposed to severe storm events. Transportation routes are vulnerable to severe wind and tornadoes and have the potential to be wiped out or blocked, creating isolation issues from responders. This includes all roads and bridges in the path of a storm event or tornado. Those that are most vulnerable are those that are already in poor condition and would not be able to withstand high wind speeds and excessive precipitation.

Utility infrastructure is also vulnerable; interruption of services may not only impact vulnerable populations but may also impact critical facilities that need to be in operation during a disaster. Because power interruption can occur, backup power is recommended for critical facilities and infrastructure. Full functionality of critical facilities such as police, fire, and medical services is essential for response during and after a severe storm event.

Loss of service can impact residents and business operations alike. Interruptions in heating or cooling utilities can affect populations such as the young and elderly, who are particularly vulnerable to temperature-related health impacts. Loss of power can impact other public utilities, including potable water, wastewater treatment, and communications. In addition to public water services, property owners with private wells might not have access to potable water due to pump failure until power is restored.

One of the dangers of severe wind events or tornadoes lies in their high capacity to cause secondary or cascading consequences, as intense winds can topple over trees, scatter debris, or damage home finishings. Moreover, these consequences can interrupt necessary utility connections, block roads or train tracks, and damage crops.

4.4.9.9. Natural, Historic and Cultural Resources

Environmental resources, including critical habitat (or habitats that are known to be essential for an endangered or threatened species), wetlands, parks, and reserves are particularly vulnerable to severe storms. Destroyed habitats could displace and kill organisms reliant on these habitats. The impacts of intense windstorms and precipitation on the environment typically take place over a larger area. Where these events occur, widespread, severe damage to plant species is likely. This includes uprooting or destruction of trees and an increased threat of wildfire in areas where dead trees are not removed.

According to Jefferson County's Historic Landmarks Commission, 71 nationally registered landmarks can be found within the boundaries of the county. These sites are particularly vulnerable to destruction, as they already require specialized care to stay in good condition for preservation.

Animals and vegetation are also prone to harm, injury, or death in the event of severe wind or tornado.

4.4.9.10. Community Activities

Potential economic impacts include loss of agriculture, business, and tourism. In addition, losses of buildings and infrastructure also take a toll on the economic condition of Jefferson County. Similarly, damages to buildings can displace people from their homes, threaten life safety and impact a community's economy and tax base. Severe windstorms and tornadoes can also damage utilities and communication towers, which are costly because they need to be repaired almost immediately after damages occur, and these repairs can cost millions of dollars to fix for a singular event.

Activities that have value to the community could potentially be impacted by severe windstorms or tornados. When these activities are delayed or cancelled due to severe windstorms or tornadoes, the economy of the community is affected. Numerous activities are scheduled within Jefferson County and its municipalities. Below are community activities that occur throughout the year or annually.

- Jefferson County Fair – July and August at Jefferson County Fairgrounds and weekly farm markets
- Historical Walking Tours of Harpers Ferry, WV – Available All Year (Note four (4) of the National Register Areas within Harpers Ferry are located in the 1-percent-annual chance floodplain.)
- Hollywood Casino Horse Races – Reoccurring – Located in Charles Town
- September 22 - 24 - Mountain Heritage Arts & Craft Festival at Jefferson County Fairgrounds
- October 7 - Freedoms Run (Note: held in in Harpers Ferry & Shepherdstown.)

4.4.10. Severe Winter Storm

Winter storms are often erratic, affecting different areas unevenly; they often develop, dissipate, and reform with two to three centers, often delivering snow in only one quadrant, while places not too far away from a blizzard may experience rain or fog, or nothing at all. There are three elements that must be present to generate a winter storm (NSSL, n.d.).

- **Cold Air:** Below freezing temperatures in the clouds and near the ground are necessary to make snow and/or ice.
- **Lift:** Something to raise the moist air to form the clouds and cause precipitation. An example of lift is warm air colliding with cold air and being forced to rise over the cold dome. The boundary between the warm and cold air masses is called a front. Another example of lift is air flowing up a mountainside.
- **Moisture:** To form clouds and precipitation. Air blowing across a body of water, such as a large lake or the ocean, is an excellent source of moisture.

4.4.10.1. Location and Extent

Winter storms tend to encompass the entire county whereas flooding generally occurs within predictable boundaries along the regulatory SFHA and its main branches and tributaries. Nor'easters typically develop as extra-tropical storms which can produce winds equivalent to hurricane or tropical storm force as well as heavy precipitation, sometimes in the form of snow. These storms are regional events that can impact very large areas hundreds to thousands of miles across over the life of the storm. Risks associated and identified with severe winter storms include but are not limited to the following:

- Emergency medical evacuation of the sick, elderly, and infirmed to shelters.
- Power outages to those on life support systems.
- Communications interruptions and/or outages.
- Loss of the ability to heat homes.
- Interruption of the delivery of home supplies and food.

These above-described events fall within 2 general categories 1) road closures due to snow drifts and 2) utility failures (such as damaged supply lines). Additionally, data indicates that structural damage has occurred in several instances in the past as a result of extremely heavy snowfall. Structures damaged were usually buildings such as barns, garages, carports, etc. Additionally, because of the county's mountainous terrain, severe winter storms frequently result in dangerous driving conditions.

According to the 2018 WV Statewide HMP, Jefferson County averaged 1.1 to 2.4 days per year with snowfall equal or greater than 10.0 inches. Ten inches of snowfall in a day represents a winter storm of significant magnitude.

Winter storms consist of cold temperatures, heavy snow or ice and sometimes strong winds. They begin as low-pressure systems that move through West Virginia either following the jet stream or developing as extra-tropical cyclonic weather systems over the Atlantic Ocean called nor'easters. Due to their regular occurrence, these storms are considered hazards only when they result in damage to specific structures or cause disruption to traffic, communications, electric power, or other utilities.

A winter storm can adversely affect roadways, utilities, business activities, and can cause loss of life, frostbite, and freezing conditions. These storms may include one or more of the following weather events:

- **Heavy Snowstorm:** Accumulations of four inches or more in a six-hour period, or six inches or more in a twelve-hour period.
- **Sleet Storm:** Significant accumulations of solid pellets which form from the freezing of raindrops or partially melted snowflakes causing slippery surfaces posing hazards to pedestrians and motorists.
- **Ice Storm:** Significant accumulations of rain or drizzle freezing on objects (trees, power lines, roadways, etc.) as it strikes them, causing slippery surfaces and damage from the sheer weight of ice accumulation.
- **Blizzard:** Wind velocity of 35 miles per hour or more, temperatures below freezing, considerable blowing snow with visibility frequently below one-quarter mile prevailing over an extended period of time.
- **Severe Blizzard:** Wind velocity of 45 miles per hour, temperatures of 10 degrees Fahrenheit or lower, a high density of blowing snow with visibility frequently measured in feet prevailing over an extended period time.

Any of the above events can result in the closing of secondary roads, particularly in rural locations, loss of utility services and depletion of oil heating supplies. Environmental impacts often include damage shrubbery and trees due to heavy snow loading, ice build-up and/or high winds which can break limbs or even bring down large trees. An indirect effect of winter storms is the treatment of roadway surfaces with salt, chemicals, and other de-icing materials which can impair adjacent surface and ground waters. Another important secondary impact for winter storms is building or structure collapses; if there is a heavy snowfall or a significant accumulation over time, the weight of the snow may cause building damage or even collapse. Winter storms have a positive environmental impact as well; gradual melting of snow and ice provides groundwater recharge. However, abrupt high temperatures following a heavy snowfall can cause rapid surface water runoff and severe flooding.

4.4.10.2. Past Occurrence

Winter storms are one of the most frequently occurring hazards in the Eastern Panhandle. Table 4-43 illustrate impacts resulting from winter storm (i.e., snow, ice, and blizzard) events in Jefferson County between 1997 and May 2023. As shown in the table, winter storm events have had minimal impact on property or crops and no injuries have been reported. Table 4-44 illustrate the number of Winter Storm

Events per year in Jefferson County. Some of these instances may have also been categorized as nor'easters; however, this was not differentiated within the database. According to the 2018 WV Statewide HMP, there are 6.5 annualized events in Jefferson County, totaling $2,000 from 2000-2016.

Over the last three decades, Jefferson County has faced numerous severe winter storm events with varying consequences. Some of the most notable are described below.

January 18, 1998

Warm moist air overrunning a shallow polar surface air mass produced winter weather; precipitation began as a mix of sleet and snow but quickly changed to rain and freezing rain across much of the area. Freestanding structures such as trees, power poles/wires, and exposed bridges received between ¼ and ½ inch of ice accretion. A strip of higher elevation areas (roughly between 500 and 1000 feet above sea level) in Jefferson County received the most icing. In this area, spotty power outages, and a few large limbs and small trees snapped under the weight of the ice.

January 14, 1999

A strong arctic cold front moved slowly southeast across the Mid-Atlantic region bringing a thin layer of sub-freezing air to the lowest levels of the atmosphere, but just off the surface, warmer air moved in. A low-pressure system developed over the Tennessee Valley. The low moved into the Mid-Atlantic region over the next few days, spreading precipitation region-wide. The precipitation started as snow but melted into rain as it fell through the warm layer of air in the mid-levels of the atmosphere. Unfortunately, the ground was below freezing during the period, so the rain froze on every surface it came in contact with. This created ice accumulations of ¼ to ½ inch. In terms of Jefferson County and surrounding areas, the storm caused several car accidents, slip and fall injuries, downed trees, and power outages. Winds gusted over 40 mph after the precipitation ended and some trees weighed down by ice fell onto roads and power lines.

February 1, 2008

An area of low pressure over the Lower Mississippi River Valley moved up the Appalachians; warmer temperatures aloft combined with subfreezing temperatures at the surface to produce widespread freezing rain across the Mid Atlantic. A quarter of an inch of ice was reported across the eastern panhandle of West Virginia. Numerous traffic accidents and power outages were reported across the region. Rain continued as warmer temperatures slowly filtered across the region.

December 18, 2009

Two systems combined to develop a strong area of low pressure that slowly tracked up the Mid-Atlantic Coast. The low-pressure system was able to tap into moisture from the Gulf of Mexico and the Atlantic Ocean causing copious amounts of precipitation to develop. High pressure to the north kept plenty of cold

air in place causing the precipitation to fall in the form of snow. According to the National Centers for Environmental Information, snowfall totaled up to 20.0 inches at Shenandoah Junction.

February 5, 2010

A potent area of low pressure strengthened over the central portion of the nation and slowly moved through the Mid-Atlantic before redeveloping off the Mid-Atlantic coast. Strong high pressure continued to pump in plenty of cold air across the region for the entire event. Due to the slow movement of the storm, there was a prolonged period of precipitation. The storm system ushered in copious amounts of moisture from the Gulf of Mexico and the Atlantic Ocean. The deep moisture combined with the forcing from the storm system to bring a period of heavy precipitation to the. Most of the precipitation fell in the form of snow due to the cold air that was already in place. West Virginia experienced major snow accumulations. Snowfall totals reported across Jefferson County were between 25 and 27 inches. Local newspapers also reported power outages across the county.

January, 2016

The January 2016 snowstorm caused closures and cancellations throughout Jefferson County and stretched resources. According to NOAA, the snowstorm was the fourth most impactful storm in the Northeastern U.S. since 1950. Jefferson County was ground zero for much of the heaviest snow patterns, receiving as much as 40.5 inches in some sections of the county. This storm was a category 4 (crippling) on the NESIS (Miller, 2018).

December, 2020

The January 2016 snowstorm was the most severe snowstorm in recent memory, but a December 16, 2020 snowstorm also impaired Jefferson County, which was also labeled as a nor'easter. WV Metro News meteorologists claimed there was as much as 12 to 18 inches of snow in Jefferson County.

The 2020 storm resulted in about 16 inches of snowfall across the Eastern Panhandle. The Jefferson County Council President declared a state of emergency and State Senator John Unger requested that Governor Earl Tomblin issue a state of emergency for Jefferson County to deploy additional assistance in snow removal and bring in other emergency services. Many businesses and schools were forced to close, and the governor told non-essential state employees not to report to work (Francis, 2020).

Table 4-43: Winter Storm Events Impacting Jefferson County from 1997 to May 2023 (NCEI NOAA, 2023)									
Date	**Type**	**Injuries**	**Property Damage ($)**	**Crop Damage ($)**	**Date**	**Type**	**Injuries**	**Property Damage ($)**	**Crop Damage ($)**
1/9/1997	Winter Storm	0	0	0	12/26/2012	Winter Weather	0	0	0
2/8/1997	Heavy Snow	0	0	0	1/15/2013	Winter Weather	0	0	0
2/13/1997	Winter Weather	0	0	0	1/25/2013	Winter Weather	0	0	0
12/27/1997	Winter Weather	0	0	0	1/28/2013	Winter Weather	0	0	0
12/29/1997	Winter Storm	0	0	0	2/22/2013	Winter Weather	0	0	0
1/15/1998	Ice Storm	0	8000	0	3/6/2013	Winter Storm	0	0	0
1/24/1998	Winter Weather	0	0	0	3/18/2013	Winter Weather	0	0	0
1/27/1998	Winter Weather	0	0	0	3/24/2013	Winter Storm	0	0	0
2/4/1998	Winter Storm	0	0	0	11/26/2013	Winter Weather	0	0	0
1/2/1999	Winter Storm	0	0	0	12/8/2013	Winter Storm	0	0	0
1/8/1999	Winter Storm	0	0	0	12/10/2013	Winter Storm	0	0	0
1/14/1999	Ice Storm	0	10000	0	12/14/2013	Winter Weather	0	0	0
3/3/1999	Winter Weather	0	0	0	1/2/2014	Winter Weather	0	0	0
3/9/1999	Winter Storm	0	0	0	1/5/2014	Ice Storm	0	0	0
3/14/1999	Winter Storm	0	0	0	1/10/2014	Winter Weather	0	0	0
1/20/2000	Winter Weather	0	0	0	1/21/2014	Winter Storm	0	0	0
1/25/2000	Winter Storm	0	0	0	2/3/2014	Winter Weather	0	0	0
1/30/2000	Winter Storm	0	0	0	2/4/2014	Winter Storm	0	0	0
2/18/2000	Winter Storm	0	0	0	2/12/2014	Winter Storm	0	0	0
12/13/2000	Ice Storm	0	0	0	2/19/2014	Winter Weather	0	0	0
12/19/2000	Winter Storm	0	0	0	3/2/2014	Winter Storm	0	0	0
1/5/2001	Winter Weather	0	0	0	3/16/2014	Winter Storm	0	0	0
1/20/2001	Winter Storm	0	0	0	3/19/2014	Winter Weather	0	0	0
2/5/2001	Winter Weather	0	0	0	3/25/2014	Winter Weather	0	0	0
2/22/2001	Winter Storm	0	0	0	3/30/2014	Winter Weather	0	0	0
3/5/2001	Winter Weather	0	0	0	11/26/2014	Winter Weather	0	0	0
1/6/2002	Winter Weather	0	0	0	12/2/2014	Winter Weather	0	0	0
1/19/2002	Winter Weather	0	0	0	12/8/2014	Winter Weather	0	0	0

Table 4-43: Winter Storm Events Impacting Jefferson County from 1997 to May 2023 (NCEI NOAA, 2023)									
Date	**Type**	**Injuries**	**Property Damage ($)**	**Crop Damage ($)**	**Date**	**Type**	**Injuries**	**Property Damage ($)**	**Crop Damage ($)**
12/5/2002	Winter Storm	0	0	0	12/22/2014	Winter Weather	0	0	0
12/11/2002	Ice Storm	0	0	0	1/3/2015	Winter Weather	0	0	0
12/24/2002	Winter Weather	0	0	0	1/6/2015	Winter Weather	0	0	0
1/5/2003	Winter Weather	0	0	0	1/11/2015	Winter Weather	0	0	0
2/6/2003	Winter Weather	0	0	0	1/26/2015	Winter Weather	0	0	0
2/14/2003	Winter Storm	0	0	0	2/16/2015	Winter Weather	0	0	0
2/26/2003	Winter Weather	0	0	0	2/21/2015	Winter Storm	0	0	0
3/30/2003	Winter Weather	0	0	0	3/1/2015	Winter Weather	0	0	0
12/4/2003	Winter Storm	0	0	0	3/3/2015	Winter Weather	0	0	0
1/17/2004	Winter Weather	0	0	0	3/5/2015	Winter Storm	0	0	0
1/23/2004	Winter Storm	0	0	0	3/20/2015	Winter Weather	0	0	0
1/25/2004	Winter Storm	0	0	0	1/22/2016	Winter Storm	0	0	0
2/3/2004	Winter Storm	0	0	0	2/9/2016	Winter Weather	0	0	0
2/5/2004	Winter Storm	0	0	0	2/14/2016	Ice Storm	0	0	0
2/24/2005	Winter Storm	0	0	0	12/12/2016	Winter Weather	0	0	0
2/28/2005	Winter Storm	0	0	0	1/5/2017	Winter Weather	0	0	0
12/5/2005	Winter Weather	0	0	0	1/10/2017	Winter Weather	0	0	0
12/9/2005	Winter Weather	0	0	0	1/14/2017	Winter Weather	0	0	0
12/15/2005	Ice Storm	0	0	0	3/13/2017	Winter Storm	0	0	0
2/11/2006	Heavy Snow	0	0	0	1/8/2018	Winter Weather	0	0	0
1/21/2007	Winter Weather	0	0	0	2/3/2018	Winter Weather	0	0	0
2/6/2007	Winter Weather	0	0	0	2/4/2018	Winter Weather	0	0	0
2/12/2007	Winter Storm	0	0	0	2/17/2018	Winter Weather	0	0	0
2/24/2007	Winter Storm	0	0	0	11/15/2018	Winter Storm	0	0	0
3/7/2007	Winter Weather	0	0	0	11/24/2018	Winter Weather	0	0	0
3/16/2007	Winter Storm	0	0	0	2023 Plan Update				
12/5/2007	Winter Weather	0	0	0	1/12/2019	Winter Storm	0	0	0

Table 4-43: Winter Storm Events Impacting Jefferson County from 1997 to May 2023 (NCEI NOAA, 2023)									
Date	**Type**	**Injuries**	**Property Damage ($)**	**Crop Damage ($)**	**Date**	**Type**	**Injuries**	**Property Damage ($)**	**Crop Damage ($)**
12/15/2007	Winter Storm	0	0	0	1/29/2019	Winter Weather	0	0	0
1/17/2008	Winter Weather	0	0	0	2/1/2019	Winter Weather	0	0	0
2/1/2008	Ice Storm	0	5000	0	2/10/2019	Winter Weather	0	0	0
2/12/2008	Winter Storm	0	0	0	2/17/2019	Winter Weather	0	0	0
2/20/2008	Winter Weather	0	0	0	2/20/2019	Winter Storm	0	0	0
12/16/2008	Winter Weather	0	0	0	3/1/2019	Winter Weather	0	0	0
1/6/2009	Winter Weather	0	0	0	3/1/2019	Winter Weather	0	0	0
1/19/2009	Winter Weather	0	0	0	3/3/2019	Winter Weather	0	0	0
1/27/2009	Winter Storm	0	0	0	12/13/2019	Winter Weather	0	0	0
12/5/2009	Winter Weather	0	0	0	12/16/2019	Winter Weather	0	0	0
12/8/2009	Winter Weather	0	0	0	12/16/2019	Winter Weather	0	0	0
12/13/2009	Winter Weather	0	0	0	1/7/2020	Winter Weather	0	0	0
12/18/2009	Winter Storm	0	0	0	1/18/2020	Winter Weather	0	0	0
12/25/2009	Winter Weather	0	0	0	12/16/2020	Winter Storm	0	0	0
1/30/2010	Winter Storm	0	0	0	1/25/2021	Winter Weather	0	0	0
2/2/2010	Winter Storm	0	0	0	1/31/2021	Winter Storm	0	0	0
2/5/2010	Winter Storm	0	2000	0	2/7/2021	Winter Weather	0	0	0
2/9/2010	Winter Storm	0	0	0	2/10/2021	Winter Weather	0	0	0
12/16/2010	Winter Weather	0	0	0	2/13/2021	Winter Weather	0	0	0
1/11/2011	Winter Weather	0	0	0	2/18/2021	Winter Storm	0	0	0
1/17/2011	Winter Weather	0	0	0	2/18/2021	Winter Weather	0	0	0
1/26/2011	Winter Storm	0	0	0	2/22/2021	Winter Weather	0	0	0
2/1/2011	Winter Weather	0	0	0	1/3/2022	Winter Weather	0	0	0
2/5/2011	Winter Weather	0	0	0	1/6/2022	Winter Storm	0	0	0
2/21/2011	Winter Weather	0	0	0	1/9/2022	Winter Weather	0	0	0

Table 4-43: Winter Storm Events Impacting Jefferson County from 1997 to May 2023 (NCEI NOAA, 2023)									
Date	**Type**	**Injuries**	**Property Damage ($)**	**Crop Damage ($)**	**Date**	**Type**	**Injuries**	**Property Damage ($)**	**Crop Damage ($)**
3/6/2011	Winter Weather	0	0	0	1/16/2022	Winter Storm	0	0	0
10/28/2011	Winter Storm	0	0	0	2/24/2022	Winter Weather	0	0	0
1/20/2012	Winter Weather	0	0	0	3/12/2022	Winter Storm	0	0	0
1/22/2012	Winter Weather	0	0	0	4/18/2022	Winter Weather	0	0	0
12/24/2012	Winter Weather	0	0	0	12/14/2022	Winter Weather	0	0	0
					12/22/2022	Winter Weather	0	0	0

Table 4-44: Number of Winter Storm Events per year in Jefferson County			
Year	**Number of Storms**	**Year**	**Number of Storms**
1996	4	2010	5
1997	6	2011	9
1998	4	2012	6
1999	6	2013	13
2000	6	2014	17
2001	5	2015	12
2002	6	2016	11
2003	6	2017	6
2004	6	2018	8
2005	7	**2023 Plan Update**	
2006	3	2019	13
2007	14	2020	8
2008	5	2021	9
2009	8	2022	9

(NOAA NCEI, 2023)

4.4.10.3. Future Occurrence

Data from NOAA shows that winter storms are a regular occurrence in Jefferson County. So, the probability of the occurrence of a damaging heavy snow or ice storm in the region in any given year is 100 percent. The severity and frequency of major winter storms and nor'easters is expected to remain fairly constant. However, due to increased dependence on various modes of transportation and use of public utilities for light, heat, and power, the disruption from these storms is more significant today than in the past. The future occurrence of climatic events cannot be predicted exactly. As noted in the table above, the County has been affected by 3 to 17 winter storm events each year from 1996 to 2022. Given this

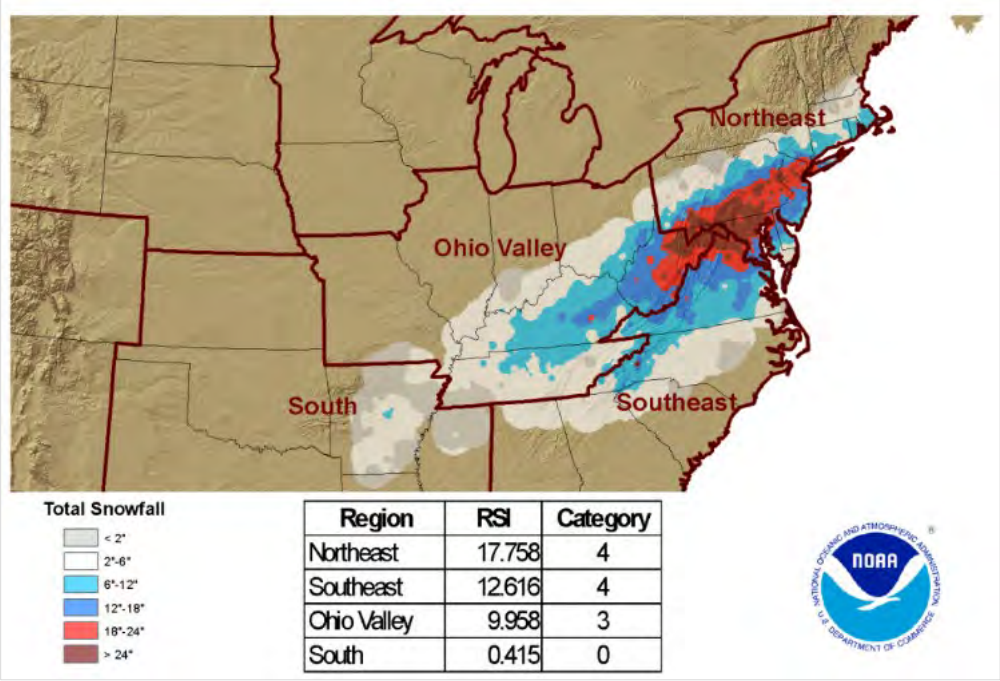
record of reported events, it is safe for planning purposes to assume that in an average year the county can expect to experience on average eight winter storm events.

Temperatures in West Virginia have risen 1°F since the beginning of the 20th century and are projected to continue rising in all seasons of the year (NCICS 2022). This overall increase in temperature leads to more water vapor being stored in the atmosphere. During winter months, despite a warmer temperature, this increase in water vapor can spur more frequent, intense winter weather. The frequency of large snowfall years has increased in the northern United States. Analysis of storm tracks indicates that there has been an increase in winter storm frequency and intensity since 1950, with a slight shift in tracks toward the poles (CSSR, n.d.). If current projections remain, the State of West Virginia can expect more frequent and intense winter weather events.

4.4.10.4. Range of Magnitude

Severe winter weather will affect several counties in a region at one time with varying intensities depending on temperature and moisture in the area. The heavily populated region between Washington D.C., Philadelphia, New York and Boston, the "I-95 Corridor," is especially impacted by Nor'easters (NWS, n.d.).

Figure 4-36: Regional Snowfall Index January 22-24, 2016



Region	RSI	Category
Northeast	17.758	4
Southeast	12.616	4
Ohio Valley	9.958	3
South	0.415	0

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A snowstorm on January 22, 2016, represents the largest impact Jefferson County has encountered Watertown, New York 13601 from a winter storm hazard. During this event, 25 to 40 inches of heavy snow fell across the Eastern Panhandle in less than two days. More specifically, Jefferson County recorded 27

½ inches of snow in just 24 hours, making it the County's "biggest snowfall" to date (Stacker, 2023). An image of the regional snowfall index can be seen in Figure 4-36. The governor issued a state of emergency, and it took until the evening of January 23 to reopen one lane on both Interstate 81N and 81S, temporarily paralyzing travel. The amount of snow put a strain on critical operations as well, and local emergency management officials were tasked with transporting local medical professionals safely to the medical centers they were employed at. The National Guard was activated to transport emergency responders using Humvees (West Virginia Press Association, 2016). A storm of this magnitude could be considered a worst-case scenario winter storm for Jefferson County. This is the most recent winter storm of this magnitude. Several other large winter storms have occurred since 2016, but none of this magnitude.

4.4.10.5. Vulnerability Assessment

While the Fujita and Saffir-Simpson Scales characterize tornadoes and hurricanes respectively, there is no widely used scale to classify snowstorms. Paul Kocin and Louis Uccellini of the National Weather Service developed the Northeast Snowfall Impact Scale (NESIS) that characterizes and ranks high-impact Northeast snowstorms. These storms have large areas of 10-inch snowfall accumulations and greater. The index differs from other meteorological indices in that it uses population information in addition to meteorological measurements. Thus, NESIS indicates a storm's societal impacts. This scale was developed because of the impact Northeast snowstorms can have on the rest of the country in terms of transportation and economic impact.

NESIS scores are a function of the area affected by the snowstorm, the amount of snow, and the number of people living in the path of the storm. The aerial distribution of snowfall and population information are combined in an equation that calculates a NESIS score which varies from around one for smaller storms to over ten for extreme storms. The raw score is then converted into one of the five NESIS categories (NOAA, n.d.).

Since winter storms are a regular occurrence in Jefferson County, as well as other counties throughout West Virginia, strategies have been developed to respond to these events. Snow removal and utility repair equipment is present to respond to typical events. The use of auxiliary heat and electricity supplies such as wood burning stoves, kerosene heaters, and gasoline power generators reduces the vulnerability of specific structures. Locations lacking adequate equipment to protect against cold temperatures or significant snow and ice are more vulnerable to winter storm events. Even for communities that are prepared to respond to winter storms, severe events involving snow accumulations that exceed six or more inches in a twelve-hour period can cause a large number of traffic accidents, interrupt power supply and communications, and cause the failure of inadequately designed and/or maintained roof systems. Some rural areas of the region are susceptible to isolation due to the loss of telephone communications and road closings. Power failure and interruption of water supplies are common from ice storms, heavy snow, and blizzard conditions. All critical facilities in the region are vulnerable to winter storms.

According to the NSSL (n.d.), most deaths from winter storms are not directly related to the storm itself; people die in traffic accidents on icy roads, of heart attacks while shoveling snow, or of hypothermia from prolonged exposure to cold. During severe winter storms, everyone is potentially at risk; the actual threat depends on specific situations.

Another reason these blizzards are dangerous is the cold temperatures that follow behind the Arctic front. Anyone stranded in their vehicle or forced to walk outside is at risk of frostbite or hypothermia (NWS, n.d.).

Heavy accumulations of ice can bring down trees and topple utility poles and communication towers. Ice can disrupt communications and power for days while utility companies repair extensive damage. Even small accumulations of ice can be extremely dangerous to motorists and pedestrians. Bridges and overpasses are particularly dangerous because they freeze before other surfaces (NWS, n.d.).

Ice storms also tend to occur several times per year. These storms usually cause temporary icy conditions that result in increased numbers of traffic accidents and falls, but little other impact. Severe ice storms bring a significant accumulation of ice, which can pull down branches, trees, and power lines. These can cause widespread power outages and it can take hours to days to restore service to all customers.

Areas of vulnerability include low-income and elderly populations, mobile homes, and infrastructure such as roadways and utilities that can be damaged by such storms and the low-lying areas that can be impacted by flooding related to rapid snow melt.

4.4.10.6. People

For the purpose of this plan, the entire population of Jefferson County is exposed to the winter weather hazard. Residents may be displaced or require temporary and long-term housing and shelter. In addition, damage caused by severe winter weather can lead to severe injuries and loss of life. Socially vulnerable populations are most susceptible due to their physical and financial ability to react and respond during extreme winter weather

Socially vulnerable populations are susceptible based on many factors, including their physical and financial ability to react or respond during a hazard and the location and construction quality of their housing. Economically disadvantaged populations are likely to evaluate their risk and make decisions based on the major economic impact to their family and may not have funds to prepare for or respond to a winter weather event.

In relation to the hazard of winter weather, socially vulnerable populations will experience a disproportionate disadvantage. For example, the elderly are considered susceptible to this hazard due to their increased risk of injuries and death from falls and overexertion and/or hypothermia from attempts to clear snow and ice. In addition, harsh winter weather can reduce the ability of these populations to access emergency services. Residents with low incomes may not have access to housing, or their housing

may be less able to withstand cold temperatures. Populations with physical disabilities may not be able to leave their houses or maneuver outdoors due to covered walkways and ramps.

The aftermath of winter weather events present numerous threats to public health and safety, including weighted powerlines and tree branches, power outages, snow- and ice-covered walkways and roadways, and cold temperatures.

4.4.10.7. Structures

All facilities in Jefferson County are exposed and vulnerable to the winter storm hazard. High snow accumulation may cause structural failure and possible collapse. In general, structural impact damage may include damage to roofs and building frames, as well as damage to building contents. Structural failure from increased snow accumulation on roofs can be linked to several different causes, including but not limited to:

- Actual snow load significantly exceeds design snow load
- Drifting and sliding snow conditions
- Deficient workmanship
- Insufficient operation and maintenance
- Improper design
- Inadequate drainage design
- Insufficient design: in older buildings, insufficient design is often related to inadequate snow load design criteria in the building code in effect when the building was designed (FEMA, 2013).

Vulnerability to the effects of winter storms on buildings is somewhat dependent on the age of a building. As building codes become more stringent, buildings can support heavier loads and as buildings age, various factors may deteriorate their structural integrity. Jefferson County's current building codes are the 2018 International Residential Code (IRC) and 2018 International Building Code (IBC) adopted by the State of West Virginia. Vulnerability also depends upon the type of construction and the degree to which a structure has been maintained. It is assumed that older structures are more vulnerable, but additional information on construction type and building codes enforced at time of construction would allow a more thorough assessment of the vulnerability of structures to winter storm impacts such as severe wind and heavy snow loading.

The most vulnerable structures are those that were poorly built or are dilapidated. The weight of heavy snow or ice may lead to structural collapse or to minor damage. Some shed roofs that protect township and borough road maintenance or firefighting equipment have large span roofs that may collapse under the weight of especially heavy snow or ice although none have collapsed due to recent heavy snow or ice storms.

4.4.10.8. Systems

Critical facilities would be impacted by a storm event, but these structures are largely constructed of concrete and masonry; therefore, they should only suffer minimal structural damage. Because power interruption can occur, backup power is recommended for critical facilities and infrastructure. Motorists may occasionally become stranded on WV Route 9, during these storms. People must then be rescued and provided with shelter until conditions improve. Stranded motorists are also likely on US Route 340 and in remote and mountain locations.

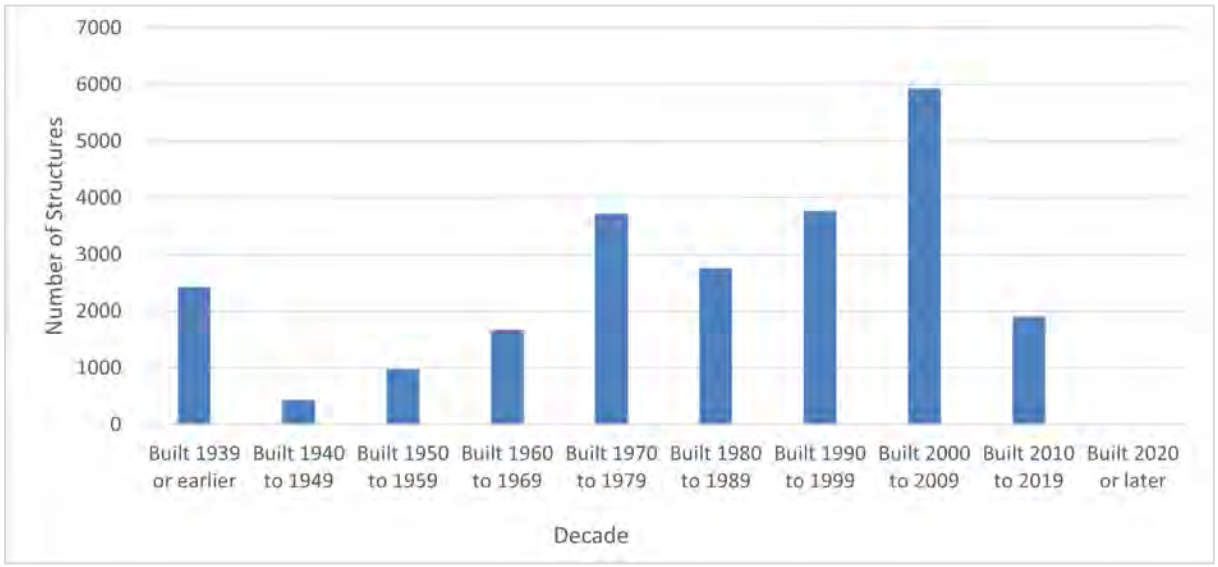
4.4.10.9. Natural, Historic and Cultural Resources

Environmental impacts from winter weather often includes damage to trees and shrubs caused by heavy snow loading, ice buildup, and/or high winds, which can break limbs and down large trees. Environmental resources, including critical habitat (or habitats that are known to be essential for an endangered or threatened species), wetlands, parks, and reserves are particularly vulnerable to severe winter weather. Destroyed habitats could displace and kill organisms reliant on these habitats to survive and reproduce. An indirect effect of winter storms is impairment of surface and groundwater adjacent to roadway surfaces treated with salt, chemicals, and other de-icing materials. These added pollutants can runoff into bodies of water and cause eutrophication, creating issues for ecosystems present in those water bodies

Winter storms can also have a positive environmental impact: gradual melting of snow and ice provides groundwater recharge. However, abrupt high temperatures following a heavy snowfall can cause accelerated snowmelt, rapid surface water runoff, and severe flooding (USGS 2019).

All structures and infrastructure in Jefferson County are exposed to heavy snow and ice. For this analysis, structures built prior to 1940 are identified as being potentially at risk of being somewhat weakened and more susceptible to damage due to heavy snow or ice. Figure 4-37 shows the distribution of building ages in Jefferson County; a little more than 10 percent (more than 2000) of all housing structures buildings were constructed prior to 1940 in Jefferson County.

Figure 4-37: Housing Structures Built by Decade, Jefferson County (U.S. Census, 2021a)



4.4.10.10. Community Activities

Potential economic impacts include loss of agriculture, business, and tourism. In addition, losses of buildings and infrastructure also take a toll on the economic condition of Jefferson County. Similarly, damages to buildings can displace people from their homes, threaten life safety, and impact a community's economy and tax base. Severe winter weather can also damage utilities and communication towers, which are costly because they need to be repaired almost immediately after damages occur and these repairs can cost millions of dollars to fix for a singular event.

Infrastructure at risk from the winter weather hazard also includes roadways that could be damaged by application of salt and intermittent freezing and warming conditions that can damage roads over time and cause potholes. Costs of snow and ice removals, as well as repairs of roads undergoing freeze/thaw cycles, can drain local financial resources quickly. A quick thaw or rain event after a heavy snow can cause substantial flooding, especially along small streams and in urban areas, which can become expensive to mitigate.

Activities that have value to the community could potentially be impacted by severe snow events. When these activities are delayed or cancelled due to snow, the economy of the community is affected. Numerous activities are scheduled within Jefferson County and its municipalities. Below are community activities that occur throughout the year or annually.

- Historical Walking Tours of Harpers Ferry, WV – Available All Year
- Handmade Christmas in Shepherdstown - November
- New Year's Eve Celebration

Impacts to community events would be dependent upon the event type and location.

4.4.11. Wild and Urban Fires

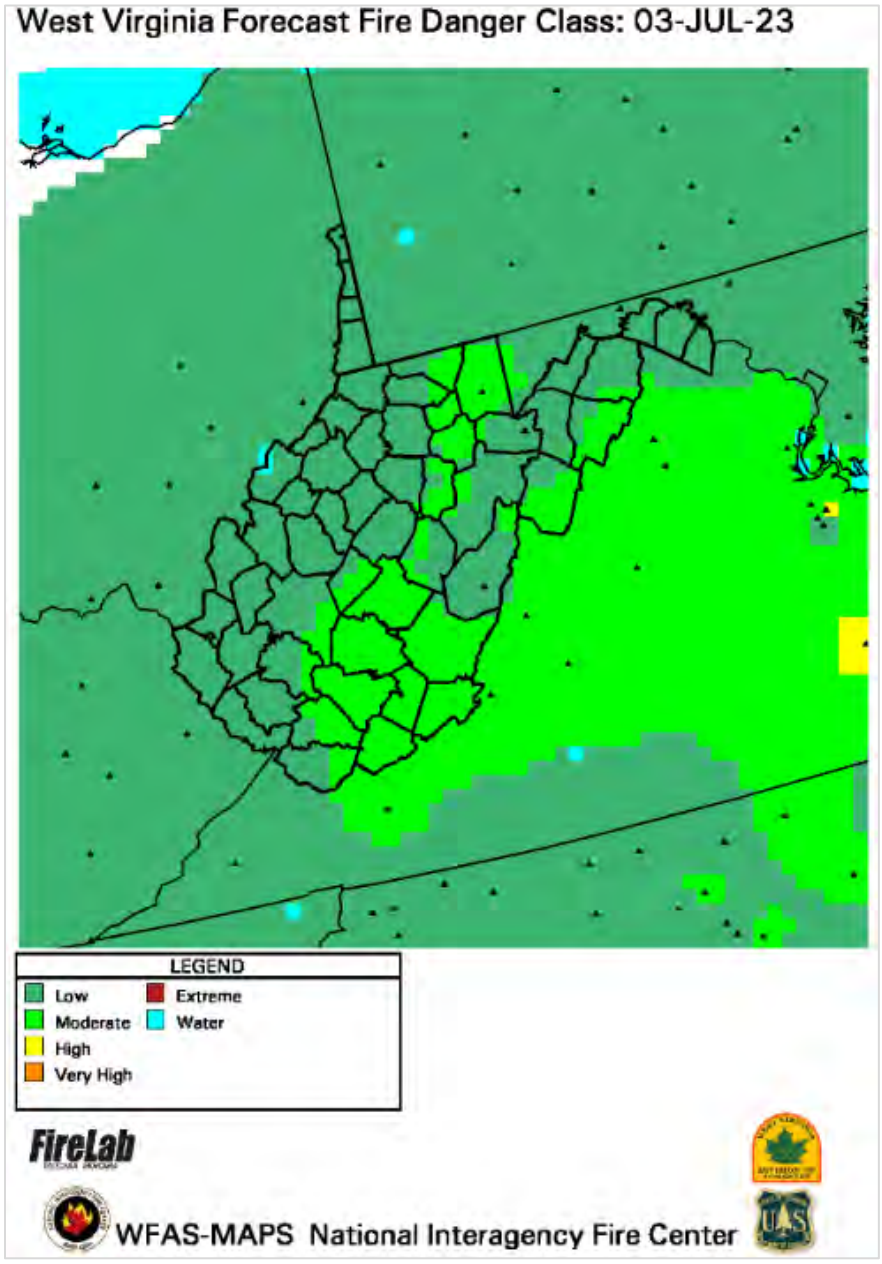
Wildfire is an uncontrolled fire spreading through vegetative fuels, exposing and possibly consuming structures. Wildfires often begin unnoticed and can spread quickly, creating dense smoke clouds. A wildland fire is a wildfire in an area in which development is essentially nonexistent, except for roads, railroads, power lines, and similar facilities. An urban-wildland interface fire is a wildfire in a geographical area where structures and other human development meet or intermingle with wildland or vegetative fuels.

4.4.11.1. Location and Extent

Wildland fires are most common in the spring (March to May) and fall (October to November) months. During spring months, the lack of leaves on the trees allows the sunlight to heat the existing leaves on the ground from the previous fall. The same theory applies for the fall; however, the dryer conditions are a more crucial factor.

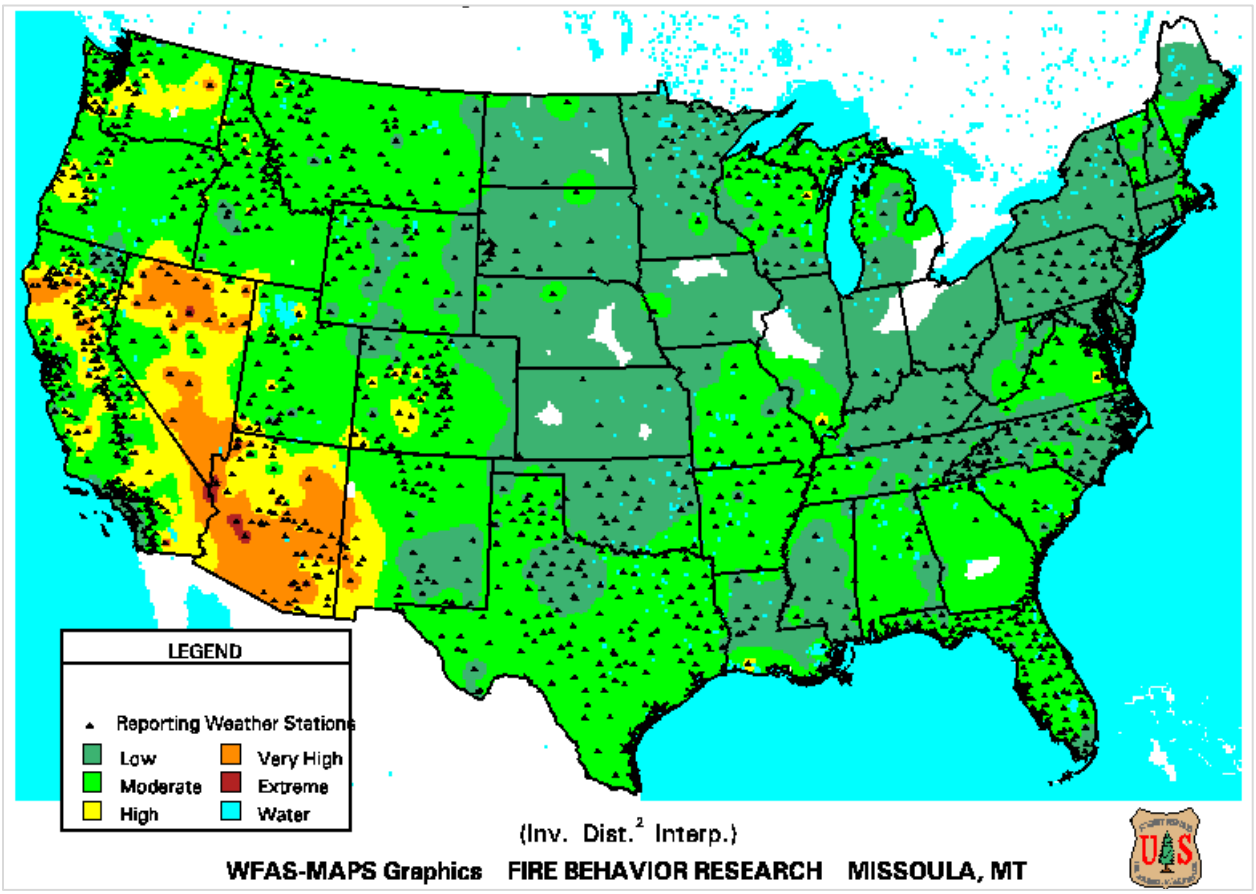
Wildfire events can occur at any time of the year but are most likely to occur in the region during a drought. Wildland fires in West Virginia can occur in fields, grass, and brush as well as in the forest itself. Under dry conditions or drought, wildfires have the potential to burn forests as well as croplands. Any small fire in a wooded area, if not quickly detected and suppressed, can get out of control. Most wildland fires are caused by human carelessness, negligence, and ignorance. They are usually signaled by dense smoke that fills the area for miles around. The size of a wildfire is contingent on the amount of fuel available, weather conditions, and wind speed and direction. The West Virginia Division of Forestry tracks and maps fire hazard daily with their Wildland Fire Assessment System, as seen for a day in July 2023 in Figure 4-38.

Figure 4-38: WV Forecasted Fire Danger (WV Div of Forestry, July 2023)



The size of a wildfire is contingent on the amount of fuel available, weather conditions, and wind speed and direction. The Wildland Fire Assessment System (WFAS)-Maps, Fire Behavior Research produces maps that show the fire danger in the United States; these fluctuate as the weather changes. Figure 4-39 shows that Jefferson County is at a low risk of fire danger in July. Generally, the entire State of West Virginia has a low or moderate risk of fire danger, as evidenced by the number of fires recorded (see historical occurrences section for detailed information on the number of fires in Jefferson County.

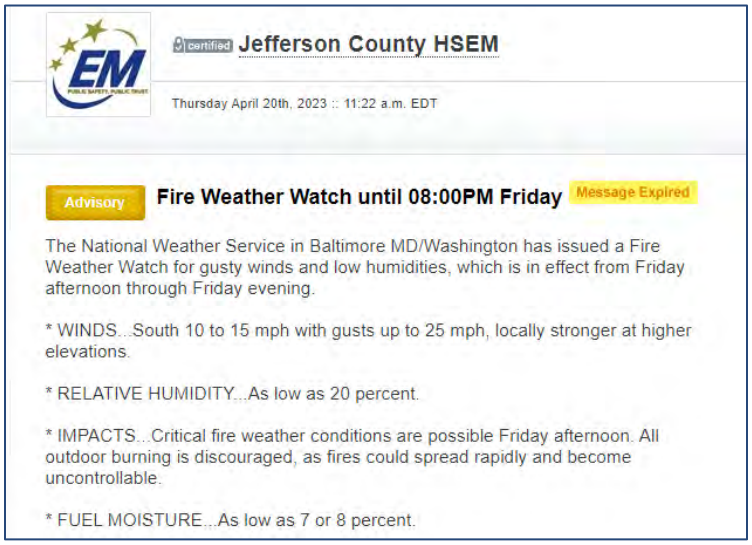
Figure 4-39: US Forecasted Fire Class (WFAS, July 2023)



Just because a single wildfire has been reported, one should not assume that vegetation fires do not occur frequently. Representatives from local fire departments throughout the region confirm that brush fires, ranging in size from a single acre to hundreds of acres occur each year. Many of these fires are extinguished before becoming a major problem. Additionally, most of these events occur in rural areas rather than in areas of urban-wildland interface.

According to the U.S. Fire Administration (USFA), overall trends for residential building fires and losses for the 10-year period of 2012 to 2021 have a 5% decrease in fires, an 8% increase in deaths, a 7% decrease in injuries, and an 11% increase in dollar loss (USFA, 2022). Fire loss reported through the National Fire Incident Reporting System (NFIRS) in 2021 for West Virginia, there were 5.2 deaths and 9.1 injuries per 1,000 all fire casualties. In 2021, the national average was 2.3 deaths and 7.2 injuries per 1,000 fires. Residential structure fire casualties reported in 2021 were 13.2 deaths and 18.8 injuries per 1,000 fires. In 2021, the national average was 6.5 deaths and 20.9 injuries per 1,000 fires.

Figure 4-40: Jefferson County HSEM Nixle Message (JSHSEM, July 2023)



The National Weather Service issues red flag warnings to inform area firefighters and the public about conditions that are favorable for wildland fires. These include the amount of water held by small vegetation such as grass, leaves, and mulch, the relative humidity, and the winds. Jefferson County Sheriff's Office and JCHSEM issue these warnings for their residents on social media; an example of this is shown to the right.

Areas that are most vulnerable to wildfires include agricultural and forest lands in the county. As for urban fires, as the name suggests, areas that are more densely populated or have houses that are older and do not have up-to-code fire protection are more vulnerable.

4.4.11.2. Past Occurrence

No major wildfires have been identified in the Eastern Panhandle, but this does not mean that vegetation fires do not occur frequently. Representatives from local fire departments throughout the region confirm that brush fires, ranging in size from a single acre to hundreds of acres occur each year. Many of these fires are extinguished before becoming a major problem. Additionally, most of these events occur in rural areas rather than in areas of urban-wildland interface.

One of the largest wildfires in West Virginia during the last 40 years occurred in the fall of 1987. A 19,560-acre wildfire blazed through Raleigh County, while another forest fire burned 15,192 acres in Boone County. The 1987 fire season proved to be the state's second worst year on record for forest fires, with more than 416,687 acres damaged (Steelhammer, 2013).

The following table presents data reported to the National Fire Incident Reporting System (NFIRS). It shows the number of fires in Jefferson County and the acres burned.

Table 4-45: Wildfires In Jefferson County					
Year	**Number of Fires**	**Brush Fire**	**Outside Fire**	**Structure Fire**	**Total Acres Burned**
2010	509	97	59	286	278
2011	427	63	26	299	28
2012	419	71	46	247	32
2013	354	58	23	221	15
2014	364	56	12	251	52
2015	393	58	31	262	117
2016	432	68	28	279	162
2017	310	44	37	195	160
2018	377	68	19	221	128
2019	389	74	36	224	131
2020	330	58	17	214	133
2021	341	82	28	195	782
2022	347	46	31	213	311
June 2023	193	55	12	100	119
Totals	**5,185**	**898**	**405**	**3,207**	**2,448**

Source: National Fire Incident Reporting System (NFIRS)

It is more difficult to determine the exact number of urban fires that have occurred in the county. However, there is one event that stands out and occurred within the last three years. On July 23, 2018, a fire destroyed several businesses in Harpers Ferry's historic area. The fire broke out around 3 a.m. and three alarms brought in resources from Maryland and Virginia to help get the fire under control. The fire reached three buildings that contained two apartments and eight businesses. No tenants or responders were injured.

During the months of May and June, 2023 portions of West Virginia was covered with hazy skies resulting from smoke from out-of-control forest fires in northeastern Canada. The conditions prompted advisories from the state Department of Environmental Protection and the Department of Health and Human Resources. Wildfire smoke contains fine particulate matter, known as PM2.5, which are microscopic solid or liquid droplets that can be inhaled and cause serious health problems, according to the U.S. Environmental Protection Agency (EPA).

The two agencies issued a joint Air Quality Advisory for fine particulate matter from wildfire smoke. The quality scores come from AirNow.gov. Air monitors in the Northern Panhandle counties of West Virginia indicated the air quality index was in the range of 201-300. The rating for that index is "very unhealthy" according to the advisory. According to the U.S EPA, AQI scores in the 201-300 range indicate an increased risk of health effects for everyone.

4.4.11.3. Future Occurrence

The WV State 2023 Hazard Mitigation Plan states Future conditions, including warming temperatures, have the potential to significantly increase vulnerability to wildfire in the state. The state has experienced longer droughts, an increase in consecutive dry days, and a decrease in the days of intense rainfall. Warm temperatures and drought create perfect conditions for wildfire outbreak throughout the state.

Previous events indicate that annual wildfire occurrences in the region are expected. In some cases, an increase in wildfires or acreage burned follows significant drought. Droughts in 1987, 1991 and 1999 had that effect. There were effects of drought visible during the 2001 fire season when 94,233 acres burned, the largest number of acres consumed since 2000.

Any fire, without the quick response or attention of fire-fighters, forestry personnel, and/or the public, has the potential to become a wildfire. The eastern border of the county will likely face more wildfires as a result of its rural nature. Therefore, the probability of a wildfire occurring in Jefferson County is considered possible as defined by the Risk Factor Methodology probability criteria (see Section 3.4.1).

4.4.11.4. Range of Magnitude

Wildfire events can range from small fires that can be managed by local firefighters to large fires impacting many acres of land. Large events may require evacuation from one or more communities and necessitate regional or national firefighting support. The impact of a severe wildfire can be devastating. While some fires are not human-caused and are part of natural succession processes, a wildfire can kill people, livestock, fish, and wildlife. They often destroy property, valuable timber, forage, and recreational and scenic values.

Vegetation loss is often an environmental concern with wildfires, but it typically is not a serious impact since natural re-growth occurs with time. The most significant environmental impact is the potential for severe erosion, silting of stream beds and reservoirs, and flooding due to ground-cover loss following a fire event.

Wildfires also have a positive environmental impact in that they burn dead trees, leaves, and grasses to allow more open spaces for new and different types of vegetation to grow and receive sunlight. Another positive effect of a wildfire is that it stimulates the growth of new shoots on trees and shrubs, and a fire's heat can open pinecones and other seed pods.

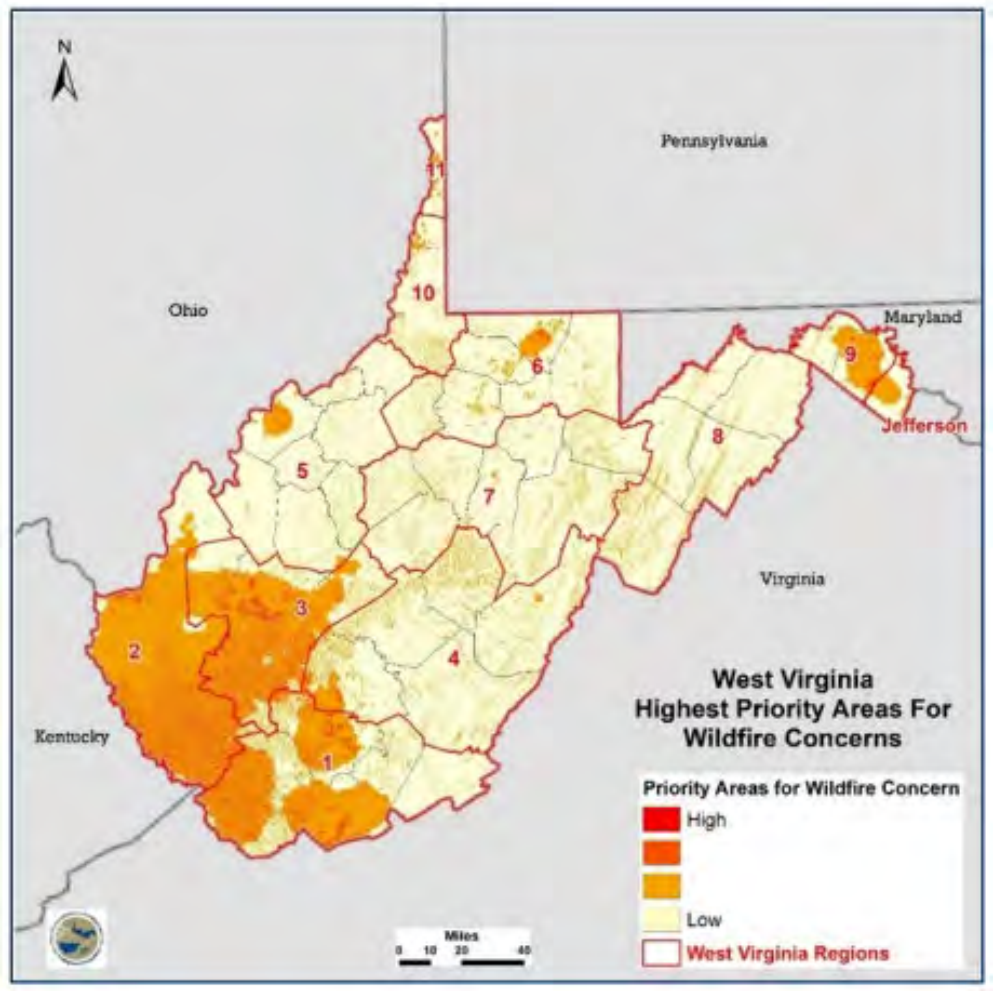
In addition to the risk wildfires post to the public and property owners, the safety of firefighters is also a concern. Although loss of life among firefighters does not occur often in West Virginia, it is always a risk. More common firefighting injuries include falls, sprains, abrasions, or heat-related injuries such as dehydration. Response to wildfires also exposes emergency responders to the risk of motor vehicle incidents and can place them in remote acres away from the communities that they are chartered to protect.

4.4.11.5. Vulnerability Assessment

Nationally, the National Park Service lists several possible causes of wildfires including human-caused and nature-caused. Human-caused fires "result from campfires left unattended, the burning of debris, negligently discarded cigarettes and intentional acts of arson", which account for up to 90% of fires. Lightning or lava causes the remaining 10% of fires (NPS). This is also true in West Virginia where "in the spring of 2015, 43% of all forest fires were the result of escaped debris fires. Equipment use was the second highest cause of forest fires in W.Va., causing 29% of all wildfires.

The State of West Virginia 2023 Hazard Mitigation Plan provided a map of the state's highest priority areas for wildfire concerns, Figure 4-41. As shown in this figure, Jefferson County has a low to medium low priority area for wildfire concern.

Figure 4-41: Highest Priority Areas for Wildfire Concern (WVHMP, 2023)



However, based on the wildfire history of the area, Jefferson County appears to have a low vulnerability to severe wildfire. The wildfire hazard was defined based on conditions that affect wildfire ignition and/or

behavior such as fuel, topography, and local weather. These conditions are constantly changing, so the region's vulnerability will fluctuate over time.

In addition, the State of West Virginia 2023 Hazard Mitigation Plan conducted an analysis based on Wildland-Urban Interface (WUI) and WUI Intermix Wildfire Hazard Area for state facilities, critical facilities, population, and state roadways. The plan defines a wildland-urban interface (WUI) fire as a wildfire occurring in the WUI. The WUI is described as the area where structures and other human improvements meet and intermingle with undeveloped wildland or vegetative fuels. Due to the rural nature of the state, with over 80 percent of the state composed of forest land, most communities in the state are in the WUI. A total of 576,466 acres in the state are located in the interface wildfire hazard area, and a total of 3,758,488 acres are located in the intermix wildfire hazard area. Jefferson County specifically has a total of 13,178 acres in the interface wildfire area and a total of 14, 008 acres in the intermix wildfire area.

Table 4-46: Total Acres of Land Area Located in the Wildfire Hazard Areas by County

County	Total Acres of Land Area	Total Acres of Land Area (Excluding Waterbodies) Located in the Wildfire Hazard Areas			
		Total Acres Located in the WUI Interface Wildfire Hazard Area	Percent of Total	Total Acres Located in the WUI Intermix Wildfire Hazard Area	Percent of Total
Jefferson	134,920	13,178	9.8%	14,008	10.4%

(WV HMP, 2023)

4.4.11.6. People

Aside from the obvious effects on humans such as burns and injuries, the smoke from fires is of great concern. "The smoke produced by wildfires can produce effects ranging from airway and eye irritation to death, especially among individuals with conditions that make them more susceptible to inhalational exposures" (Clements, 2009, p.283).

The U.S. Fire Administration Topical Fire Report Series released October 2021 provided highlights on important findings from data collected in the U.S. Fire Administration's National Fire Incident Reporting System. Findings for this topical report are as follows:

- Risk by age:

- Adults ages 55 or older had a greater relative risk of fire death than the general population.
- Adults ages 85 or older had the highest relative risk of fire death.
- Children ages 4 and younger had a relative risk of fire death that was 50% less than that of the general population, the lowest relative risk for this age group since the mid-1970s; however, these children had an elevated risk of both fire death and injury when compared to older children (ages 5 to 14).

- Adults ages 25 to 64 and 80 or older had a greater relative risk of fire injury than the general population.
    - Risk by region: People living in the Midwest and South had the greatest relative risk of dying in a fire when compared to populations living in other regions of the United States.
    - Risk by gender: Males were 1.7 times more likely to die in fires than females.
    - Risk by race: African Americans and American Indians/Alaska Natives were at a greater relative risk of dying in a fire than the general population.

According to Section 1.3 Population and Demographics of the plan, adults ages 65 and older were the fastest growing between 2017 and 2021 with a population increase of 13.3%. The percentage of Jefferson County's population that is age 65 and older increased from 15.7 percent of the population in 2017 to 17.3 percent in 2021. The Topical Fire Report indicated that this age group has a greater relative risk of fire than the general population. This age group should be targeted for outreach on fire safety. The Federal Emergency Management Agency along with the U.S. Fire Administration release Fire Safety for Older Adults October 2018, which could be distributed via the JCOHSEM monthly newsletter and social media.

The WV State 2023 Hazard Mitigation Plan estimated population living in the high wildfire risk hazard areas (both Interface and Intermix) that could be impacted should a wildfire occur. Based on the overall analysis for the state, an estimated 422,175 residents are located in the wildland urban interface (WUI) hazard area and 23.34 percent are highly vulnerable. In addition, an estimated 1,807,426 residents are located in the WUI hazard area, with 6.18 percent being highly vulnerable. Results also indicate that Jefferson County does not have a highly vulnerable population within the WUI interface area and only 206 people in the WUI intermix area.

4.4.11.7. Structures

The WV State 2023 Hazard Mitigation Plan analyzed critical facilities located in wildfire hazard areas. Facilities at risk from being impacted by wildfire incidents include locations that provide services for vulnerable populations (i.e., schools and senior facilities) and emergency response agencies (i.e., fire and police). Medical facilities, fire/EMS, schools, and shelters could all sustain damages from wildfire events depending on the intensity of wind and pathway of the burn. Statewide, there are 51 facilities in the WUI Interface Wildfire Hazard area and 28 facilities in the WUI intermix wildfire hazard area. However, Jefferson County does not have any critical facilities in either WUI interface or intermix wildfire hazard areas.

The National Fire Protection Association studied the causes and circumstances of home structure fires reported to local fire departments in the United States from 2016 through 2020 (NFPA, 2023). The study found that most home fires and fire casualties result from five causes: cooking, heating, electrical distribution and lighting equipment, intentional fire setting, and smoking materials. Cooking equipment was the leading cause and accounted for 44% of home structure fires.

Loss estimations for urban fires are difficult to ascertain due to the unseen costs that go beyond fire suppression alone such as loss of life, injury, loss of property and livelihood. For this reason, loss and damage are calculated for wildfires only in Jefferson County.

4.4.11.8. Systems

According to the WV State 2023 Hazard Mitigation Plan, when post-fire flooding overwhelms the transportation, infrastructure failures inevitably occur, and communities have varying levels of risk depending on the nature of the infrastructure that exists, its vulnerability to post-fire flooding, and the level of redundancy in the transportation infrastructure for that community. Roads provide a vital transportation link between populated areas. Road closures, as a result of a wildfire event, will have significant impacts on the county and its communities. The State Plan indicated that Jefferson County has a total of 1.84 miles of state roads located within the WUI Interface Wildfire Hazard Area, while a total of 19.18 miles in the Intermix Wildfire Hazard Area.

4.4.11.9. Natural, Historic and Cultural Resources

Wildfires cause more than just the direct damage to structures, vegetation, or air quality; when a fire removes much or all of the vegetation in a watershed, subsequent rains will have much greater erosive potential, which in turn produces large quantities of sediment and plant debris that affect the water quality of streams and lakes (Keller, Devecchio, 2015, p.459).

However, wildfires can also have benefits to the soil; they “tend to leave an accumulation of carbon on the surface in the form of ash and increase the nutrient content of a soil. Under the right conditions when erosion does not remove the ash from the environment, a nutrient reservoir may form that is beneficial to local plants” (Keller & Devecchio, 2015, p 159).

In terms of historic structures, most structures at-risk to wildfires are those within the WUI. These structures are also more likely to be constructed from wood. The July 2018 structural fire that destroyed several businesses in Harpers Ferry’s historic area is an example of how fires can spread quickly through an area, specifically with older structures.

4.4.11.10. Community Activities

Activities that have value to the community could potentially be impacted by wildfires, however this location of the activity. In addition, poor air quality due to smoke generated by the wildfire can impact outdoor activities. Wildfires also release significant amounts of mercury into the air, which can impact both people and the environment. Below are community activities that occur throughout the year or annually.

- Jefferson County Fair – July and August at Jefferson County Fairgrounds and weekly farm markets

- Historical Walking Tours of Harpers Ferry, WV – Available All Year (Note four (4) of the National Register Areas within Harpers Ferry are located in the 1-percent-annual chance floodplain.)
- Hollywood Casino Horse Races – Reoccurring – Located in Charles Town
- September 22 - 24 - Mountain Heritage Arts & Craft Festival at Jefferson County Fairgrounds
- October 7 - Freedoms Run (Note: held in in Harpers Ferry & Shepherdstown.)

4.4.12. Dam Failure

The West Virginia Department of Environmental Protection (WVDEP) defines a dam as "an artificial barrier or obstruction that impounds, or will impound, water." In West Virginia, for a dam to be regulated by the state, it must be equal to or greater than 25 feet in height and contain 15 or more acre-feet of water volume or be greater or equal to 6 feet in height and contain 50 or more acre-feet of water volume. Some federally owned dams, dams that do not normally impound water (such as some culverts), and dams built for agricultural purposes that have been demonstrated not to cause loss of life if the dam were to fail, may be exempted from state regulation (WVDEP, 2009). The full regulation can be found in the Dam Control and Safety Act – W. Va. Code 22-14-3(f), and in the Dam Safety Rule (47CSR34-2.12).

Failure of these structures results in an uncontrolled release of impounded water. Dam failures most often occur during or after a massive rainfall, flooding, or spring thaws, sometimes with little to no warning. Depending on the size of the water body where the dam is constructed, water contributions may come from distant upstream locations.

4.4.12.1. Location and Extent

Dam failures can pose a serious threat to communities located downstream from major dams. The impact of a dam failure is dependent on dam and reservoir characteristics and the amount and distance of population or assets located downstream. Catastrophic failures are characterized by the sudden, rapid, and uncontrolled release of impounded water or any other fluid or semi-fluid.

Dams that meet the definition of a 'High Hazard Potential Dam' (HHPD) are a subset of the dams managed by the West Virginia DEP's Dam Safety Program. Following FEMA's definition, a HHPD meets the following guidelines:

- Dam is located in a state with a state dam safety program
- Dam is classified as "high hazard potential" by the state dam safety program
- Dam has an Emergency Action Plan (EAP) approved by the state dam safety program
- Dam fails to meet minimum state dam safety standards and poses an unacceptable risk to the public (as determined by the state)
- Dam is <u>not</u>:

- Federally owned,
- A hydroelectric dam licensed by the FERC, or
- Built under the authority of the Secretary of Agriculture.

Dams are used for a variety of purposes (recreation, flood control, water storage, irrigation, mine tailings, electrical generation, debris control or navigation); described by FEMA.

- **Flood Control**: Prevent loss of life and property caused by flooding. They impound floodwater and either release it under control to the river below or sore or divert the water for other uses.
- **Recreation**: Facilities designed for boating, skiing, camping, picnic areas, and boat launches can all be supported by dams.
- **Navigation**: Provide a stable system of inland river transportation.
- **Mine Tailings**: Allow the mining and processing of coal and other minerals while protecting the environment.

The primary hazard surrounding dam failure is the swift, unpredictable flooding of those areas immediately downstream. While general inundation areas can be determined, it is often impossible to know exactly how and where water held back by a dam will flow during a rapid failure of the dam. Generally, there are three (3) types of dam failures: hydraulic, seepage, and structural.

- **Hydraulic Failure:** Hydraulic failures result from the uncontrolled flow of water over the dam, around and adjacent to the dam, and the erosive action of water on the dam and its foundation. Earthen dams are particularly vulnerable to hydraulic failure since earth erodes at relatively small velocities.
- **Seepage Failure:** All dams exhibit some seepage that must be controlled in velocity and amount. Seepage occurs both through the dam and the foundation. If uncontrolled, seepage can erode material from the foundation of an earthen dam to form a conduit through which water can pass. This passing of water often leads to a complete failure of the structure, known as piping.
- **Structural Failure:** Structural failures involve the rupture of the dam and/or its foundation. This is particularly a hazard for large dams and for dams built of low strength materials.

Dam failures generally result from a complex interrelationship of several failure modes. Uncontrolled seepage may weaken the soil and lead to a structural failure. Structural failure may shorten the seepage path and lead to a piping failure. Surface erosion may lead to structural or piping failures.

Dam Safety requires that each dam be evaluated for its hazard potential downstream. Hazard potential is not related to the structural integrity of a dam, but strictly to the potential for downstream flooding. The hazard potential evaluation places the dam in one of four classifications that are defined in the West Virginia DEP's Dam Safety Regulations (47CSR34-3.5.b.). These classifications can be found in Table 4-47.

Table 4-47: Dam Hazard Potential Classifications (WV DEP)

CLASS	DESCRIPTION
1 (High Hazard)	Dams located where failure may cause loss of human life or major damage to dwellings, commercial or industrial buildings, main railroads, important public utilities, or where a high-risk highway may be affected or damaged.

Table 4-47: Dam Hazard Potential Classifications (WV DEP)	
CLASS	DESCRIPTION
	This classification must be used if failure may result in the loss of human life.
2 (Significant Hazard)	Dams located where failure may cause minor damage to dwellings, commercial or industrial buildings, important public utilities, main railroads, or cause major damage to unoccupied buildings, or where a low-risk highway may be affected or damaged. The potential for loss of human life resulting from failure of a Class 2 dam must be unlikely.
3 (Low Hazard)	Dams located in rural or agricultural areas where failure may cause minor damage to nonresidential and normally unoccupied buildings, or rural or agricultural land. Failure of a Class 3 dam would cause only a loss of the dam itself and a loss of property use, such as use of related roads, with little additional damage to adjacent property. The potential for loss of human life resulting from failure of a Class 3 dam must be unlikely. An impoundment exceeding forty (40) feet in height, or four hundred (400) acre-feet storage volume shall not be classified as a Class 3 dam. A waste disposal dam, the failure of which may cause significant harm to the environment, shall not be classified as a Class 3 dam.
4 (Negligible Hazard)	Dams where failure is expected to have no potential for loss of human life, no potential for property damage and no potential for significant harm to the environment. Examples of Class 4 dams include: dams across rivers, failure of which under any conditions will not flood areas above normal streambank elevations; dams located in the reservoir of another dam which, under any conditions, can contain water released by failure of the Class 4 dam; and dams in series where the toe of the Class 4 dam(s) is in close proximity to the reservoir of a dam which can contain failure of the Class 4 dam(s) under any condition. In considering a request for a Class 4 designation, the director may require written concurrence from the owner(s) of downstream dams that may be affected by failure of the Class 4 dam. Approval for use of this classification is vested in the director and will be based on engineering evaluation of the dam(s) and downstream areas in question.

Information about the hazard level and specific threats posed by a dam failure are often not shared with the general public. Owners of HHPDs are required to develop an Emergency Action Plan (EAP) as well, which is not shared publicly. Local emergency management personnel will be able to obtain this information from the WV DEP (WV DEP, 2021). Table 4-48 indicates whether a dam has developed an EAP or not.

There are four (4) dams profiled for Jefferson County in the United States Army Corp of Engineers (USACE) National Inventory of Dams (NID) (USACE, 2023). Table 4-48 lists all the dams in Jefferson County that the USACE maintains information. The location of all known existing dams and an evaluation of their hazard level can be seen in Figure 4-42.

Table 4-48: Jefferson County Dam Inventory (USACE, 2023)

Dam Name	Owner	River	EAP?	Hazard Potential Classification	Year Built	Longitude	Latitude
Keyes Ferry Acres Lake No.1	H.W. Speaks	UT Shenandoah	No	High (See Note 1 below)	1960	-77.776666	39.291669
Shannondale Club Ltd. Dam	Shannondale Club, Limited	Furnace Run	Yes	Significant	1965	-77.813611	39.212219
Lake Forest Dam	American Acreage, LLC	Furnace Run	Not Required	Low		-77.825555	39.180279
Millville	PE Hydro Generation, LLC	Shenandoah River	Not Required	Low	1905	-77.7823	39.2688

Source: USACE National Dam Inventory

In addition to these four (4) dams, the WV GIS Technical Center (WVGISTC) data for dams include two (2) other dams: Keyes Ferry Acres Lake No. 2 and Keyes Ferry Acres Lake No. 3. Detailed information on these two (2) dams was not available.

Aaron Tonkery, WVDEP-Dam Safety Program Manager, verified that the USACE information has not been updated for the majority of West Virginia for several years and that includes Jefferson County. Mr. Tonkery provided the following information on dams located in Jefferson County.

- Note 1 - Jefferson County has all of the Keyes Ferry Acres Lake Dams (including No. 1 listed above) recorded as non-jurisdictional. Therefore, WVDEP-Dam Safety has no regulatory authority over those dams. The Keyes Ferry Acres Lake No.1 Dam is below dimensions (height/volume) to be considered a "jurisdictional" dam and none of the Keyes Ferry Acres Lake Dams have an EAP given that any of them are of jurisdictional size. The hazard

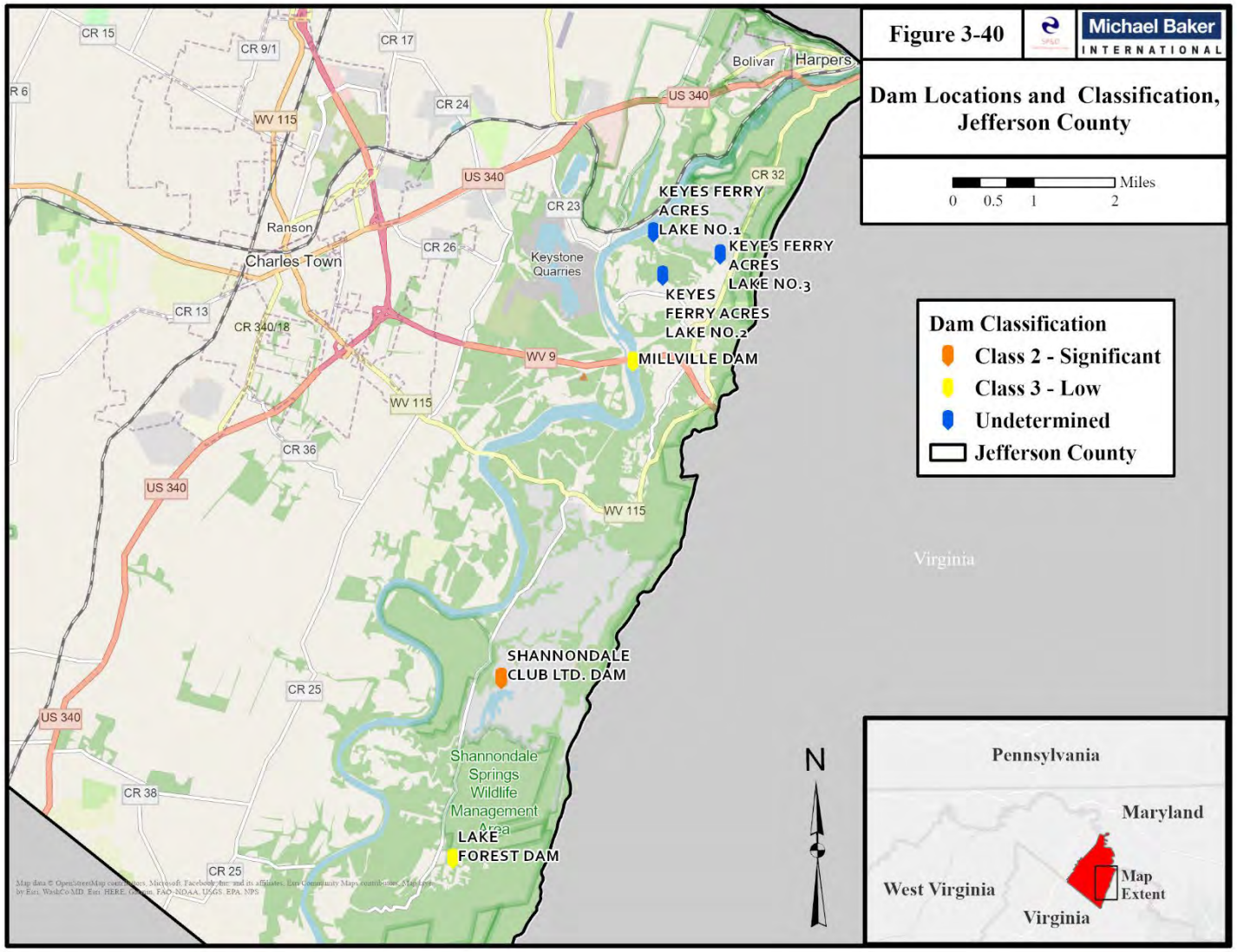
classification for Keyes Ferry Acres Lake Dam #1 should be reviewed given that it is below jurisdictional size.

- Information regarding Shannondale Lake and Lake Forest Dam are correct.
- The Millville Dam is hydro power, so WVDEP-Dam Safety does not regulate that structure.
- There are two high hazard dams not included in the NID that were discovered in 2018. The owner has decided to remove the dams and are in the final application stage at this point. They plan to have them removed before the end of the calendar year, 2023. The dams are listed as follows:

- Izaak Walton League Dam No. 1
    - Owner: Izaak Walton League of America - Jefferson County Chapter
    - Located on Dry Run
    - EAP is required
    - High Hazard
    - Lat: 39.3436 - Long: -77.9456
- Izaak Walton League Dam No. 2
    - Owner: Izaak Walton League of America - Jefferson County Chapter
    - Located on Dry Run
    - EAP is required
    - High Hazard
    - Lat: 39.3416 - Long: -77.9461

- Shannondale Lake Dam (03701) is the only one that requires Monitoring and Emergency Action Plans (MEAP) even though it is a Class 2. This is because there is a road downstream (low traffic) that would be affected if the dam was to fail. The MEAP has an inundation map for that dam.
- Lake Forest (03708), which is a Class 3 and does not require a MEAP. There is no inundation map for this dam.
- Other dams in the County, like the Keyes Ferry Acres Lake Dams, are below jurisdiction (too small to be "dams").

Figure 4-42: Dam Locations and Classification, Jefferson County



4.4.12.2. Past Occurrence

Several research methods to identify any past occurrences of dam failures in Jefferson County yielded no evidence of any historic or recent dam failures in the county. However, a catastrophic dam failure has occurred in West Virginia. On February 25th, 1972, a dam in Buffalo Creek Hollow, Logan County, that was used to contain waste from a coal mining operation failed. The failure was a result of heavy precipitation, a lack of safety features, and poor maintenance. The dam was also not permitted by the state. The disaster killed 123 people, injured 1,000 more, and left 4,000 people homeless (Choi, 1999).

4.4.12.3. Future Occurrence

The WV DEP, Division of Water and Waste Management (DWWM), Dam Safety Program maintains an inventory of dams in West Virginia within the jurisdiction of the Dam Control and Safety Act. DWWM regulates dams:

- 25 feet or more in height and capable of impounding 15 or more acre-feet of water;
- Or 6 feet or more in height and capable of impounding 50 or more acre-feet of water

The construction, operation, maintenance, modification, and abandonment of dams regulated by the DEP is reviewed and monitored by the Department's Program of Dam Safety. Dams are evaluated based on categories such as slope stability, undermining seepage, and spillway adequacy. The presence of structural integrity and inspection programs significantly reduces the potential for major dam failure events to occur. Minor dam failures are more common since low hazard structures are minimally regulated, but the impact of these events is minimal.

Emergency Action Plans (EAPs) drafted in accordance with the Federal Guidelines for Dam Safety identify the risk related information including the inundation area and the time lapse between dam failure and flooding reaching specific destinations downstream. These plans are also reviewed and approved by the West Virginia Division of Water and Waste Management Environmental Enforcement (DWWM EE).

Dams which are federally owned and regulated are subject to the dam safety offices of the regulating agency. The FERC Office of Energy Projects' Dam Safety and Inspections division conducts construction, operation, exemption, special, pre-license, and environmental and public use inspections of energy production dams to minimize risk associated with FERC dams. USACE dams are inspected and maintained by the district in which the dam is located.

According to the Army Corps of Engineers – Baltimore District, a catastrophic failure of the Jennings Randolph Lake Dam on the border of Garrett County, Maryland and Mineral County, West Virginia which impounds a 952-acre lake, could create a hazard to life and property and could cause significant downstream river flooding along the Potomac River in small portions Shepherdstown and Harpers Ferry. The dam was completed in 1981 and has a height of 296 feet and a maximum storage capacity of 130,900 acre-feet. The U.S. Army Corps of Engineers, Baltimore District, has installed a year-round early warning system at Jennings Randolph Lake intended to notify downstream public users of impending rapid

increases in water levels, and to evacuate the river immediately to higher ground for their safety. Accordioning to the USACE NID, the worst-case scenario of failure for this dam "could involve situations such as: a rare, extreme rainfall event resulting in water flowing over the earthen dam, eroding the dam, and leading to a breach of the dam, or; unexpected behavior of seepage through the dam eroding soil from within the embankment leading to a breach. If a breach were to occur, an uncontrolled surge of water would flow out of the reservoir, flooding downstream communities. Bloomington, Luke, Westernport, Piedmont, Keyser, Cumberland, and adjacent communities are in the most immediate danger in the event of a flood. Other communities along the North Branch Potomac River would also be impacted" (USACE 2021a). The NID does not include inundation mapping or vulnerable population estimates as of June 2023.

4.4.12.4. Range of Magnitude

Dam failures can pose a serious threat to communities located downstream from major dams. The impact of a dam failure is dependent on the volume of water impounded by the dam and the amount and distance of population or assets located downstream. Catastrophic failures are characterized by the sudden, rapid, and uncontrolled release of impounded water or any other fluid or semi-fluid from a dammed impoundment or water body. Dams are inspected yearly or sooner as necessary.

Dam failures may or may not leave enough time for evacuation of people and property, depending on their abruptness. Seepages in earth dams usually develop gradually, and, if the embankment damage is detected early, downstream residents have at least a few hours or days to evacuate. Failures of concrete or masonry dams tend to occur suddenly, sending a wall of water and debris down the valley at more than 100 miles per hour. Survival would be a matter of having the good fortune not to be in the flood path at the time of the break. Dam failures due to overtopping of a dam normally give sufficient lead time for evacuation. Dam failures may also be intentional, as their potential to cause serious destruction may make them a potential terrorism target.

The environmental impacts of dam failures can be devastating. Depending on the size of the event and number or type of structures located in the inundation area, water contamination from hazardous material facilities could occur. Water velocities could result in total destruction of trees and other vegetation. Severe erosion both during and after the failure event are probable. Additionally, if the dam's purpose is water supply, downstream communities will lose access to potable water.

4.4.12.5. Vulnerability Assessment

Vulnerability is defined by identifying the location of dams having high hazard potential. Specifically, those dams in Class 1 in which loss of life is possible should a failure occur and/or where economic loss would be excessive to extensive for residential, commercial, or agricultural resources and would cause substantial public inconvenience.

DEP completes an annual inspection of high hazard dams and notes safety concerns. Safety concerns include stability, flood flow issues, and poor maintenance. When a dam has safety concerns, DEP places

them on an unsafe dam list and contacts the owners to work on resolving the issues. The list is not publicly released in order to provide the dam owner with an opportunity for due process to resolve the concerns. DEP has also reviewed the dams deemed unsafe to confirm that they meet the other requirements for HHPD based on updated EAPs and ownership.

Dam permittees are responsible for conducting a dam breach analysis and inundation mapping. This data is not typically publicly available nor is it provided in a geospatial data format making further analysis challenging. The extent of downstream inundation areas varies based on dam and reservoir characteristics. Structures and critical facilities are vulnerable to the volume and velocity of water, and the population in these structures at the time of inundation is vulnerable to these impacts. In addition, while dams of any size may fail and cause damage, smaller dams do not have inundation areas delineated and reported to the DEP. Depending on the time of day of a dam failure, the population in residential structures could be especially vulnerable to a dam failure; if the failure took place at night those in an inundation area would be unaware of the failure before the inundation waters impacted their residences. Jurisdictional losses associated with exposed building value could not be estimated with the available information.

Should dam owners need dam inundation data moving forward, they will need approval from the local sponsors (e.g., the municipality, the Eastern Panhandle Conservation District, and the State Conservation Committee) and can then obtain the data from the Natural Resources Conservation Service (NRCS) via Andy Deichert (andy.deichert@wv.usda.gov).

According to the West Virginia Statewide Assessment, there are three "major" high-hazard dams located outside of Region 9 counties (Morgan, Berkeley, and Jefferson) that have the potential to impact Region 9 communities.

- **Jennings Randolph Dam** (Border of Mineral County, WV and Garett County, MD): The Jennings Randolph dam, located on the North Branch Potomac River in Garrett County, Maryland and Mineral County, West Virginia, is one of the largest dams in the region. Completed in 1981, the Jennings Randolph flood-control dam has a height of 296 feet and a maximum storage of 130,900 acre-feet. A dam failure of Jennings Randolph dam would affect downstream five counties (Mineral, Hampshire, Morgan, Berkeley, and **Jefferson**) and 12 jurisdictions, or from the unincorporated town of Barnum on the North Branch Potomac River downstream to **Harpers Ferry** at the confluence of the Potomac and Shenandoah Rivers. The U.S. Army Corps of Engineers, Baltimore District, has installed a year-round early warning system at Jennings Randolph Lake intended to notify downstream public users of impending rapid increases in water levels, and to evacuate the river immediately to higher ground for their safety.
- **Savage River Dam** (Garrett County, MD): Completed by the U.S. Army Corps of Engineers (USACE) in 1952, the dam is 184 feet high with a maximum storage of 31,800 acre-feet of water. Five miles downstream of the dam, the Savage River flows into the Potomac River

near the town of Piedmont, Mineral County, WV. The Savage River Dam, maintained by the U.S. Army Corps of Engineers, is classified as a "large", "high" hazard structure.

- **Lake Holiday Dam** (Frederick County, VA): The privately owned Lake Holiday Dam in Frederick County, Virginia, is located approximately 13 miles upstream from the Berkeley County border. In Virginia, the lake flows into Isaacs Creek, an east-flowing tributary of Back Creek, which flows north through Berkeley County to the Potomac River. This high hazard dam is 102 feet high and stores 10,166 acre-feet of water.

4.4.12.6. People

Dam failures themselves do not pose a threat to public health; the cascading effects that occur after a failure are more concerning. When a dam fails, it causes flooding downstream that can cause death, injury, and illnesses relating to water-borne diseases and standing water. As a result of flooding, people might have to evacuate and be displaced from their homes.

Inundation areas and vulnerable populations are being developed by the WV GIS Technical Center with concurrence with USACE. Future updates should more fully incorporate this data once completed. USACE is also updating its database and associated website to include dam-specific risk information and inundation maps for USACE dams.

Table 4-49 lists dams that would affect Jefferson County if a failure would occur. Areas that could be potentially impacted are provided. Both the towns of Shepherdstown and Harpers Ferry are downstream of the Jennings Randolph Lake Dam, while Harpers Ferry also is downstream of the Millville Hydroelectric Dam. Using the 2020 census data, Shepherdstown's population is 1,494 people, while Harpers Ferry has a population 269 people. A dam failure at either dam could potentially impact on these populations.

Table 4-49: Dams Affecting Jefferson County

Name of Dam	Class	Type	Stream / Downstream Area
Jennings Randolph Lake Dam	II	Rolled Earth & Rock Fill	North Branch Potomac River and Potomac River / Shepherdstown and Harpers Ferry.
Millville Hydroelectric-Dam	IV	Concrete	Shenandoah River / Areas along the river in the Millville area and potentially the lower town of Harpers Ferry.
Lake Shannondale Dam	II	Rolled Earth & Rock Fill	Furnace Run / Properties located along Mission Road and Riverside Drive

4.4.12.7. Structures

There have been no losses of life or property in Jefferson County due to a dam failure. However, this does not mean that there will never be any losses due to this type of event.

> *"Dam safety risk assessment is like a stool that stands on three legs. These legs quantify the likelihood that various initiating events (hydrologic, seismic, structural/internal, mechanical, or human error) will occur; the likelihood that the dam would fail given these initiating events; and the likelihood that, given a failure, the resulting flood wave would result in various levels of damage. The meaningful quantification of risk depends on credible estimates of the damage that would result from each significant failure scenario. Loss of human life is generally accepted as the most important consequence, so it often dominates dam-safety decisions. Unfortunately, the confidence with which life loss can currently be estimated is low. This high level of uncertainty applies to both statistical confidence limits and to expert opinion. As such, this single limitation is a critical hindrance to the credibility and value of dam-safety risk assessment results. Indeed, some would like to push the stool over on its weak leg and abandon probabilistic risk assessment altogether" (USACE, 2002).*

Jefferson County has one dam that could present the possibility of significant flood damage to the residents and businesses located near or downstream from the dam. Lakeside Properties, LLC privately owns the Lake Shannondale Dam which impounds a 50.5-acre lake, with a maximum depth of 86 feet. The dam was constructed in 1965. There are approximately 12 residential properties that could incur significant flooding if the dam were to fail catastrophically, all of which are located along Mission Road and Riverside Drive.

The owner of the Lake Shannondale Dam indicated that the dam is inspected annually by the West Virginia Department of Environmental Protection – Dam Safety Division, and a Monitoring and Emergency Action Plan (MEAP) was developed for the dam, that was updated in October 2021.

The current Jefferson County Emergency Operations Plan contains a dam failure incident specific annex.

4.4.12.8. Systems

Systems in this section refer to networks and capabilities. Dam failures could disrupt many systems including power, sewer, water, communications, and road access. The Millville Hydroelectric Dam is connected to the Millville Hydro Station, which is an energy plant that converts energy into bulk electrical power. The Power Plant distributes electrical power to the Jefferson County area electrical grid, which delivers it to electricity consumers. A failure at this dam is rated as a low hazard dam, however a dam failure incident would cause significant disruption to the systems in Jefferson County.

4.4.12.9. Natural, Historic and Cultural Resources

The National Register of Historic Places was used to assess the vulnerability of natural, historic, and cultural resources. For more complete information about the historical designations, refer to the National Register WV Listings. Historic structure locations were overlayed with dam locations. This assessment concluded no historic or culture structures are located in or around dams located in Jefferson County.

4.4.12.10. Community Activities

Activities that have value to the community could potentially be impacted by dam failures, however the identified dams are located in rural areas. Therefore, community activities would be unlikely to occur in these areas. Below are community activities that occur throughout the year or annually.

- Jefferson County Fair – July and August at Jefferson County Fairgrounds and weekly farm markets
- Historical Walking Tours of Harpers Ferry, WV – Available All Year (Note four (4) of the National Register Areas within Harpers Ferry are located in the 1-percent-annual chance floodplain.)
- Hollywood Casino Horse Races – Reoccurring – Located in Charles Town
- September 22 - 24 - Mountain Heritage Arts & Craft Festival at Jefferson County Fairgrounds
- October 7 - Freedoms Run (Note: held in in Harpers Ferry & Shepherdstown.)

4.4.13. Civil Disturbance

4.4.13.1. Location and Extent

Civil disturbance is a broad term that is typically used by law enforcement to describe one or more forms of disturbance caused by a group of people. Civil disturbances are typically a symptom of, and a form of protest against, major socio-political problems. Civil disturbance hazards include the following:

- **Famine:** Involving a widespread scarcity of food leading to malnutrition, increased mortality, and a period of psychosocial instability associated with the scarcity of food, such as riots, theft of food, and the falls of governments caused by political instability borne of an inability to deal with the crisis caused by famine
- **Economic Collapse, Recession:** Very slow or negative growth
- **Misinformation:** Erroneous information spread unintentionally
- Civil Disturbance, Public Unrest, Mass Hysteria, Riot: Group acts of violence against property and individuals, for example
- **Strike, Labor Dispute:** Controversies related to the terms and conditions of employment, for example:

Typically, the severity of the action coincides with the level of public outrage. In addition to a form of protest major socio-political problems, civil disturbances can also arise out of union protest, institutional population uprising, or from large celebrations that become disorderly. The scale and scope of civil disturbance events varies widely and the distinction between a violent civil disturbance and a peaceful protest must also be made. However, government facilities, landmarks, prisons, and universities are common sites where crowds and mobs may gather.

4.4.13.2. Past Occurrences

According to the Berkeley and Morgan County 2022 Hazard Mitigation Plan Update, an uprising against racism and police brutality swept the nation, in May of 2020. Triggered by the murder of George Floyd by Minneapolis Police in Minnesota, groups in cities and towns across the country hosted protests for several weeks, including Berkeley and Morgan County. Protests occurred throughout the region during the summer months of 2020, in Berkeley Springs, Martinsburg, and other communities. In one instance at a Berkeley Springs protest in August 2020, thirty to fifty people gathered to show support for the Black Lives Matter protest but were met with hundreds of counter protesters carrying Confederate flags and overpowering the speakers of the rally with chants of “U.S.A” and “all lives matter.” Police intervened and created a barricade with riot shields when counter protesters advanced towards the gazebo holding the speakers.

Jefferson County monitored this aforementioned “peaceful protest” event in Berkeley County and other communities throughout the panhandle according to Stephen Allen, Director, Office of Homeland Security and Emergency Management. In 2018, Ranson community members began to hold protests against the

construction of the Rockwool facility; a Danish stone wool insulation manufacturing facility. As of September 2022, the construction of this facility was under investigation for political improprieties, air quality and water quality. The West Virginia Fusion Center monitors and disseminates information to Jefferson County Fusion Liaison Officers. Finally, the Jefferson County Counter Terrorism Committee meets monthly to discuss and monitor civil disturbances.

4.4.13.3. Future Occurrences

Civil disturbance is always a possibility as long as there is discrimination or other perceived social economic injustices or development related. However, it may be possible to recognize the potential for an event to occur in the near-term. For example, an upcoming significant sporting event or other large public gathering in the State may result in gathering of large crowds or immediately after significant national news involving political or social debates. Local law enforcement should anticipate these types of events and be prepared to handle a crowd so that peaceful gatherings are prevented from turning into unruly public disturbances. Therefore, the probability of civil disturbance occurring in the region is considered possible as defined by the Risk Factor Methodology probability criteria.

The 2024 election cycle involving local, state, and national contests may be contentious and are very likely to result in local confrontations. Access to detailed plans by local law enforcement, political and community leaders, in response to varying degrees of unrest should be developed and made available. General guidelines should be publicized to assure the local population that good order and the rule of law will be maintained. The area around Shepherd University in Shepherdstown and Charles Town, county seat, may become a site for political activists to hold public demonstrations.

4.4.13.4. Range of Magnitude

Civil disturbances can take the form of small gatherings or large groups blocking or impeding access to a building or disrupting normal activities by generating noise and intimidating people. They can range from a peaceful sit-in to a full-scale riot, in which a mob burns or otherwise destroys property and terrorizes individuals. Even in its more passive forms, a group that blocks roadways, sidewalks, or buildings interferes with public order. There are two types of large gatherings typically associated with civil disturbances: a crowd and a mob. A crowd may be defined as a casual, temporary collection of people without a strong, cohesive relationship. Crowds can be classified into four categories (Juniata County, PA MJHMP, 2008):

1. Casual Crowd: A casual crowd is a group of people who happen to be in the same place at the same time. Violent conduct does not occur.
2. Cohesive Crowd: A cohesive crowd consists of members who are involved in some type of unified behavior. Members of this group are involved in some type of common activity, such as worshipping, dancing, or watching a sporting event. They require substantial provocation to arouse to action.
3. Expressive Crowd: An expressive crowd is one held together by a common commitment or purpose. Although they may not be formally organized, they are assembled as an expression of

common sentiment or frustration. Members wish to be seen as a formidable influence. One of the best examples of this type is a group assembled to protest for a cause.

4. Aggressive Crowd: An aggressive crowd is comprised of individuals who have assembled and are visibly angry or violent. This crowd often has leaders who attempt to arouse the members or motivate them to action. Members are noisy and threatening and will taunt authorities. They may be more impulsive and emotional and require only minimal stimulation to arouse violence.

A mob can be defined as a large disorderly crowd or throng. Mobs are usually emotional, loud, tumultuous, violent, and lawless. Similar to crowds, mobs have different levels of commitment and can be classified into four categories:

- Aggressive Mob: An aggressive mob is one that attacks, riots and terrorizes. The object of violence may be a person, property, or both. An aggressive mob is distinguished from an aggressive crowd only by lawless activity. Examples of aggressive mobs are the inmate mobs in prisons and jails, mobs that act out their frustrations after political defeat, or violent mobs at political protests or rallies.
- Escape Mob: An escape mob is attempting to flee from something such as a fire, bomb, flood, or other catastrophe. Members of escape mobs are generally difficult to control and can be characterized by unreasonable terror.
- Acquisitive Mob: An acquisitive mob is one motivated by a desire to acquire something. Riots caused by other factors often turn into looting sprees. This mob exploits a lack of control by authorities in safeguarding property.
- Expressive Mob: An expressive mob is one that expresses fervor or revelry following some sporting event, religious activity, or celebration. Members experience a release of pent-up emotions in highly charged situations.

The worst-case scenario for the region would be an aggressive crowd or expressive mob protesting on or within a major thoroughfare, most likely formed near a major population hub, like Martinsburg. This scenario would also involve property damage

4.4.13.5. Vulnerability Assessment

Areas of Jefferson County that are most vulnerable to civil disturbance acts are area with higher populations and urban centers: Charles Town and the Town of Ranson. However, response training and anticipation to disturbances may minimize associated impacts and damages.

4.4.13.6. People

Jurisdictional losses for civil disturbance events are difficult to predict and can vary significantly in range. The two communities identified in this section are locations where such events are more likely to occur and therefore should be considered more vulnerable.

Impacts from violent acts to survivors most likely include common stress reactions that may last several days to a few weeks. These reactions may include the following:

- Emotional Reactions: Shock, fear, grief, anger, guilt, shame, helplessness, numbness, sadness.
- Cognitive Reactions: Confusion, indecisiveness, worry, shortened attention span, trouble concentrating.
- Physical Reactions: Tension, fatigue, edginess, insomnia, body aches, easily startled, tachycardia, nausea, loss of appetite.
- Interpersonal Reactions: distrust, conflict, withdrawal, irritability, loss of intimacy, feeling abandoned.

4.4.13.7. Social Vulnerability

Deciding which groups are vulnerable is challenging. There will always be variation between groups and the people within them in relation to the risks they face. However, the elderly, children, homeless persons, people with disabilities, religious groups and members of the LGBTQ community experience higher rates of exposure to violence.

4.4.13.8. Structures

In the case of small and large civil disturbance events, the county may incur losses related to work stoppages in addition to any acts of vandalism that my occur. Structures may be damaged, specifically commercial and government property. Damages to structures may result in short to long-term closures and disruption of services.

4.4.13.9. Systems

Adequate law enforcement minimizes the changes of a small assembly of people turning into a significant disturbance. This will ensure improved response times, optimal communications, and containment of the event as during these events major roadways can be blocked and disturb traffic and larger events may involve the interruption or removal of communication.

4.4.13.10. Resources and Community Activities

Public places are most often used for protest. These locations are chosen to attract the most attention for the issue at the center of the protest. By holding a protest in public or community centered area, organizers are hoping to draw attention to their cause or issue from passersby or even the media who may not be aware of its significance. The usage of parks and other community areas that have pre-planned events may conflict with the protest and may result in the cancellation of planned community events. Below are community activities that occur throughout the year or annually.

- Jefferson County Fair – July and August at Jefferson County Fairgrounds and weekly farm markets

- Historical Walking Tours of Harpers Ferry, WV – Available All Year (Note four (4) of the National Register Areas within Harpers Ferry are located in the 1-percent-annual chance floodplain.)
- Hollywood Casino Horse Races – Reoccurring – Located in Charles Town
- September 22 - 24 - Mountain Heritage Arts & Craft Festival at Jefferson County Fairgrounds
- October 7 - Freedoms Run (Note: held in in Harpers Ferry & Shepherdstown.)

4.4.14. Hazardous Materials Incident

A hazardous material may be defined as a substance or material which, because of its chemical, physical, or biological nature, poses a threat to life, health, or property if released from a confined setting. A release may occur by spilling, leaking, emitting toxic vapors, or any other process that enables the material to escape its container, enter the environment, and create a potential hazard. Hazardous materials can include toxic chemicals, infectious substances, bio-hazardous waste, and any materials that are explosive, corrosive, flammable, or radioactive. Related combustible hazardous materials include oxidizers and reactive materials, while toxins produced by etiological (biological) agents are types of poison that can cause disease.

Hazardous material releases pose threats to the natural environment, the built environment, and public safety through the diffusion of harmful substances, materials, or products. Hazardous material releases can occur wherever hazardous materials are manufactured, used, stored, or transported. Such releases can occur along transportation routes, including road and rail, or at fixed-site facilities. Hazardous material releases can result in human and wildlife injury, property damage, and contamination of air, water, and soils.

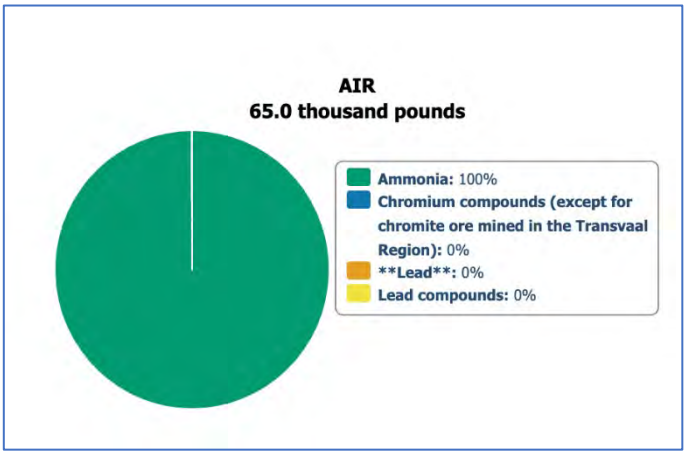
4.4.14.1. Location and Extent

Fixed-site facilities that use, manufacture, or store hazardous materials in Jefferson County pose risk and must comply with both Title III of the federal Superfund Amendments and Reauthorization Act (SARA), also known as the Emergency Planning and Community Right-to-Know Act (EPCRA). This legislation requires that all owners or operators of facilities that manufacture, produce, use, import, export, store, supply, or distribute any extremely hazardous substance, as defined by the EPA, at or above the threshold planning quantity, as established by EPA, shall report to the county where the facility is located and to the State that the facility is subject to the requirement to assist the Local Emergency Planning Committee (LEPC) in the development of an Off-site Emergency Response Plan. The community right-to-know reporting requirements keep communities abreast of the presence and release of chemicals at individual facilities. Due to the sensitive nature of SARA facility information, Berkeley and Morgan County will not release information regarding specific SARA facilities for this plan. However, reports from facilities that have release toxic material into the environment are accessible by the public under the Toxic Release Inventory (TRI). TRI was established under EPCRA and expanded under the Pollution Prevention Act of 1990. The Toxics Release Inventory (TRI) tracks the management of certain toxic chemicals that may pose a threat to human health and the environment. Certain industrial facilities in the U.S. must report annually how much of each chemical is recycled, combusted for energy recovery, treated for destruction, and disposed of or otherwise released on- and off-site. This information is collectively referred to as production-related waste managed. Some notable facilities which report through the EPA TRI are listed in Table 4-50.

Table 4-50: Top Five Facilities by Total Releases, Jefferson County, WV, 2021		
Facility/ Location	**Industry Sector**	**Thousands of Pounds**
US CBP Advanced Training Center 440 Koonce Road Harpers Ferry, WV, 25425	Sector 999-Other	**712**: Off-Site Disposal or Other Releases Note: 1,700 Off Site Disposal or Other Releases reported in 2020
Rockwool USA 665 Northport Avenue Kearneysville, WV, 25430	Sector 327-Non-Metalic Mineral Product	**85,345**: Air & Off-Site Disposal or Other Releases Note: Not reported as a top-five facility by total releases in 2020.
Ox Paperboard LLC 164 Eyster Rd Harpers Ferry, WV, 25425	Sector 322-Paper	Annual release **did not exceed 500 pounds** for the reporting year, 2021. Note- 11 Off-Site Disposal or Other Releases reported in 2020
Griffith Energy Services Inc. 110066 Middleway Pike Charles Town, WV, 25414	Sector 4247-Petroleum Bulk Terminals	Annual release **did not exceed 500 pounds** for the reporting year, 2021. Note- Annual release did not exceed 500 pounds for the reporting year, 2020
UFP Ranson LLC 249 16th Avenue Ranson, WV, 25438	Sector 321-Wood Products	Annual release **did not exceed 500 pounds** for the reporting year, 2021. Note- Not reported as a top-five facility by total releases in 2020.

Source: 2021 National Analysis Dataset (updated May 2023, released May 2023)

Figure 4-43: Chemicals Released into the Air, 2021 TRI – Jefferson County, WV



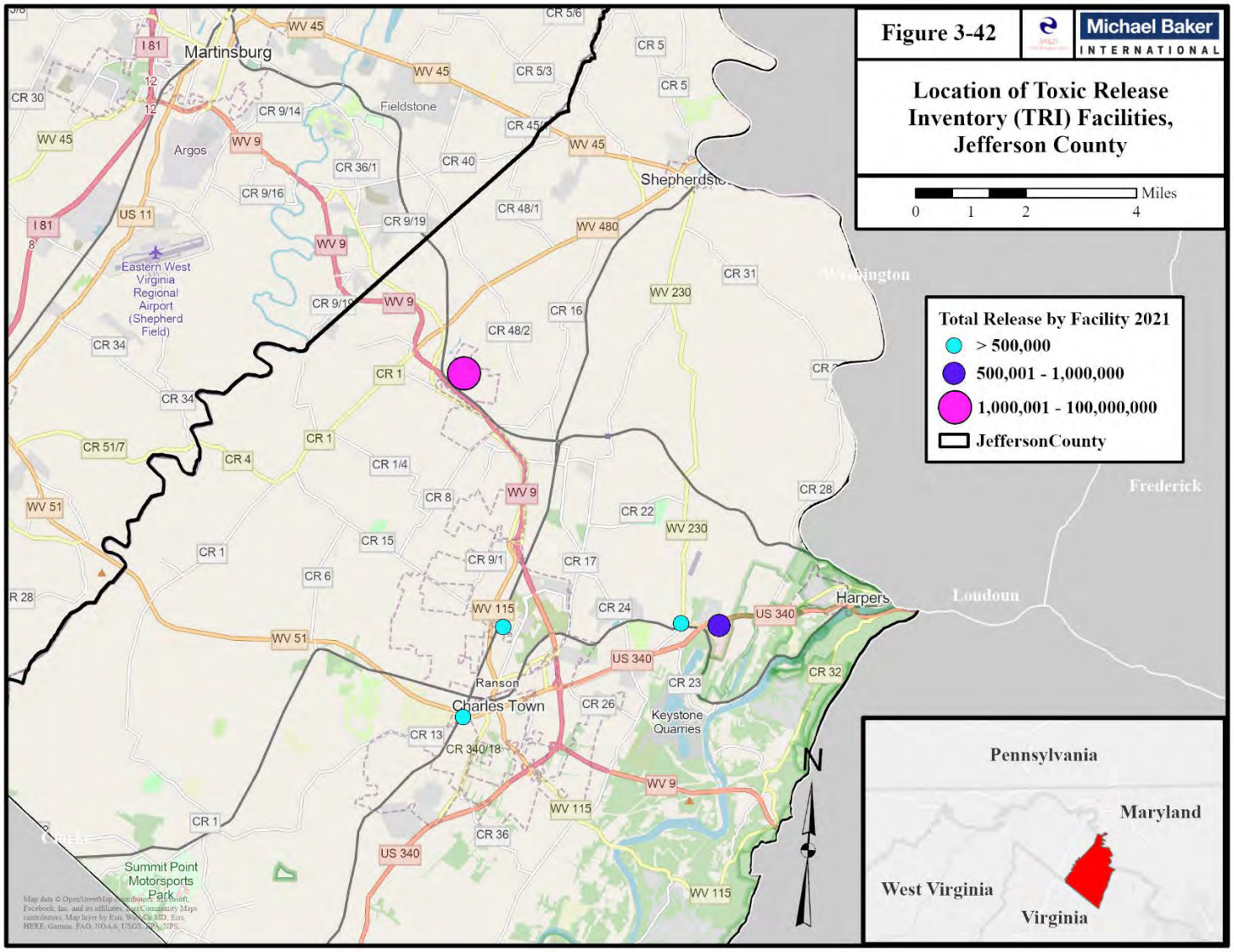
Ammonia, which is a Carcinogenic Chemical, was the top chemical released into the air in Jefferson County according to the 2021 TRI Factsheet: County – Jefferson, WV.

West Virginia ranks **16 out of 56** states/territories nationwide based on total releases per square mile (Rank 1 = highest releases.)

The extent of the damage from hazmat can be localized to just a cleanup on the road, or widespread, to include hazardous materials reaching source water via storm drains, and the river. In general, facilities that utilize hazardous materials are located near major thoroughfares and in more developed areas of Jefferson County.

In addition to fixed-site hazardous materials release, there are increasingly large numbers of chemicals, oils, radioactive materials, and other hazardous substances spilled because of highway, rail, and waterway accidents, storage tank leakage, pipeline break, and/or other accidents. On occasion, these events become a major disaster and force people to evacuate and/or lose their homes and businesses.

Figure 4-44: Location of Toxic Release Inventory (TRI) Facilities, Jefferson County



4.4.14.2. Past Occurrence

Since 2009, PHMSA has not reported any incidents occurring in Jefferson County. The National Response Center (NRC), by contrast, has reported 33 occurrences of hazmat incidents since 2010. The table on the following page details the type of incident, its cause, the date, and the location, when available.

Table 4-51 highlights all HazMat Incident Reports reported by the U.S. Department of Transportation from 2000- May 2023.

Table 4-51: NRC HazMat Occurrences

Type of Incident	Incident Cause	Incident Date	Location Nearest City
Fixed	Other/Unknown	3/4/2010	Harpers Ferry
Fixed	Other/Unknown	6/25/2010	Charles Town
Fixed	Dumping	11/5/2010	Charles Town
Storage Tank	Equipment Failure	4/29/2011	Shepherdstown
Mobile	Other/Unknown	11/29/2011	Morgan
Unknown Sheen	Other/Unknown	12/18/2011	Millville
Fixed	Other/Unknown	12/30/2011	Harpers Ferry
Storage Tank	Other/Unknown	6/10/2012	Shenandoah Junction
Railroad	Equipment Failure	8/26/2012	Shenandoah Junction
Mobile	Other/Unknown	11/1/2012	Charles Town
Unknown Sheen	Other/Unknown	3/7/2013	Shepherdstown
Fixed	Other/Unknown	1/4/2014	Ranson
Fixed	Natural Phenomenon	2/6/2014	Harpers Ferry
Fixed	Other/Unknown	3/1/2014	Charles Town
Railroad	Equipment Failure	5/2/2014	Shepherdstown
Railroad	Equipment Failure	6/15/2014	Charles Town
Fixed	Other/Unknown	7/30/2014	Charles Town
Fixed	Dumping	10/28/2014	Harpers Ferry
Fixed	Other/Unknown	2/9/2015	Kearneysville
Pipeline	Operator Error	6/9/2015	Charles Town
Fixed	Equipment Failure	11/11/2015	Charles Town
Aircraft	Other/Unknown	12/16/2015	Charles Town
Storage Tank	Other/Unknown	1/7/2016	Harpers Ferry
Railroad	Equipment Failure	10/13/2016	Charles Town
Railroad	Equipment Failure	2/13/2017	Harpers Ferry
2023 Plan Update			
Storage Tank	Unknown	1/26/2018	Summit Point
Fixed	Operator Error	3/17/2018	Harpers Ferry
Fixed	Dumping	4/28/2018	Harpers Ferry
Fixed	Dumping	8/17/2018	Kearneysville
Mobile	Equipment Failure	11/1/2018	Charles Town
Fixed	Other	1/3/2019	Ranson

Table 4-51: NRC HazMat Occurrences			
Type of Incident	**Incident Cause**	**Incident Date**	**Location Nearest City**
Fixed	Dumping	7/30/2019	Charlestown
Fixed	Other	10/7/2019	Halltown
Unknown Sheen	Unknown	3/20/2020	Shepherdstown
Railroad	Derailment	1/25/2021	Ranson
Fixed	Other	3/20/2021	Charles Town
Fixed	Unknown	8/15/2021	Shepherdstown
Fixed	Equipment Failure	8/17/2021	Shepherdstown
Fixed	Operator Error	6/4/2023	Charles Town

Source: National Response Center 2010-2023

Note: In 2022 only one incident was recorded in the database, which involved a trespasser on railroad, which was not a release.

JCHSEM reached out to their neighboring jurisdictions to ask about hazards that originate in Jefferson County and affect the surrounding, and hazards that originate in surrounding counties and affect Jefferson County. The Loudoun County Office of Emergency Management (OEM) in Virginia expressed concern for incidents originating in Jefferson County that affect Loudoun; a train derailment in Harpers Ferry could affect the county. The Washington County Division of Emergency Services (DES) in Maryland mentioned that there are numerous rail lines along the Sandy Hook area (South Washington County) where Washington and Jefferson meet at the Potomac; if a train derailed or spill hazardous materials, there would be a potential impact to both counties.

4.4.14.3. Future Occurrence

While some hazardous material release incidents have occurred in Jefferson County in the past, they are generally considered difficult to predict. An occurrence is largely dependent upon the accidental or intentional actions of a person or group. Intentional acts are addressed under Section 3.3.16, Terrorism. Future occurrences could take place at any facility making use of or storing hazardous materials or any thoroughfare for hazardous materials into, out of, or through the county. Overall, the probability of future hazardous materials incidents are possible as defined by the Risk Factor Methodology (See Section 3.4.1).

The closing of the Halltown Paperboard Mill in Jefferson County in November 2022 marked the closure of the oldest continuously operating manufacturing plant in West Virginia. The closure comes after a fire damaged the facility in June 2022. A combination of the fire and other nationwide issues like labor shortage and supply chain disruption were cited as reasons for the plant's closure. If it is decided that the property is demolished or repurposed the County will have to take measures to ensure proper assessment, planning, cleanup and preparation of the property and possible hazardous material disposal.

4.4.14.4. Range of Magnitude

The hauling, storage, and use of hazardous materials play a vital role in the economy of our nation. These materials are stored and handled at fixed facilities and are transported over highway, railway, and water

transportation systems, as well as pipelines. It is estimated that over four billion tons of hazardous materials are transported annually and that 100,000 trucks haul hazardous materials on the country's highways each day. The majority of the transportation infrastructure utilized to move hazardous materials through Jefferson County is located in the central portion of the county; this is also the most populated area of the county, and the location for the majority of the high hazard areas for natural hazards, thus increasing the chance of a release. An incident causing the accidental release of a hazardous material is spontaneous, with little time of warning. Further, the recovery and clean-up activities involved in a hazmat incident may require several hours, days, or even weeks to complete. In order to determine the amount of hazardous materials transported through Jefferson County, a hazardous materials commodity flow study should be conducted. This was identified as a gap in the capability assessment and therefore included as a mitigation action item in Chapter 6.

Hazardous materials can be released as a secondary result of a natural disaster like an earthquake or flood. In either case, buildings or vehicles can release their hazardous materials inventories when structurally compromised or involved in traffic accidents. Additional potential causes of hazardous material releases may include terrorist incident and illegal drug labs or dumping. Illegal drug labs present a special concern because each must be treated as a chemical hazard site and decontaminated before the property can be used again. Illegal drug labs can be set up in homes, apartments, vacant buildings, shacks in the forest or even in a van parked on the street.

4.4.14.5. Vulnerability Assessment

Due to the wide variety of substances that are used, transported, and stored in the area, it is difficult to assign an overall impact of these substances to public health, the environment, the economy, and the infrastructure. Some spills cause minor if any damage to the area. For example, spilling a few gallons of gasoline on concrete during transfer causes minimal economic impact; rarely does the spilled substance cause any environmental impacts. This is not to say that all spills are minor, some can be very harmful to human health and the environment and costs thousands, if not millions of dollars to clean up.

Spills into waterways and those that reach the groundwater are of particular concern due to the threat they impose to drinking water and subsequently public health, the environment, and fauna in the area.

Additionally, transportation-based hazard incidents have the potential to result in cascading impacts. For example, a rail-based incident could isolate a community in Jefferson County as well as several other communities in the region. Officials from such operators as CSX Transportation concur. In a past interview, the company's hazmat manager out of Pittsburgh noted that a significant problem associated with rail incidents, particularly those involving hazardous materials, is that a stopped train can block several roadway intersections, essentially cutting some areas off. These blocks not only hinder evacuation from those areas but also emergency services access to those areas.

Hazardous materials incidents can occur rapidly over a large area. The chemical, physical, and biological

properties of hazardous materials pose a potential risk to life, health, the environment, and property when not properly contained.

Many factors determine the impact of a potential incident including quick and solid decision-making by emergency officials, location and type of release, evacuation and shelter-in-place needs, public health concerns, and relevant economic considerations. Additionally, while most incidents are generally brief, the resulting recovery and cleanup may take time to exact.

If evacuation is necessary due to a chemical emergency, road closures and traffic jams may result. If a large-scale evacuation is deemed necessary, it can pose serious long-term economic consequences to the involved population area. A delay in the resumption of industry commerce may cause economic losses for both business owners and employees. In addition, an evacuation ordered on short notice could cause serious problems for businesses requiring time to shut down specialized equipment.

There is also the monetary impact borne by responding public or private emergency response organizations. These agencies may be challenged by the expenses dictated by a hazardous material release and may need to wait an uncomfortable length of time for the responsible party to reimburse any outstanding costs, further straining the economic resources of the region.

Several emergency preparedness and response plans have been developed with regards to hazardous materials incidents for Jefferson County, including the Jefferson County Emergency Operations Plan and Emergency Support Function (ESF 10) Hazmat Response, and the Jefferson County Commodity Flow Study, 2012 and 2016. Several Extremely Hazardous Substances (EHS) facilities have developed off-Site Emergency Response Plans as well. Upon reviewing the information from the commodity flow study, it was apparent that liquefied petroleum gas presented a risk to several areas in Jefferson County. The update of both the 2016 Hazardous Materials Commodity Flow Study and the Hazardous Materials Response Plan have been included as new mitigation actions in this plan update.

4.4.14.6. People

Hazardous material releases can contaminate air, water, and soils, possibly resulting in death and/or injuries. Dispersion can take place rapidly when transported by water and wind. While often accidental, releases can occur because of human carelessness, intentional acts, or natural hazards. When caused by natural hazards, these incidents are known as secondary events. Hazardous materials can include toxic chemicals, radioactive materials, infectious substances, and hazardous wastes. Such releases can affect nearby populations and contaminate critical or sensitive environmental areas.

With a hazardous material release, whether accidental or intentional, there are several potentially exacerbating or mitigating circumstances that will affect its severity or impact. Mitigating conditions are precautionary measures taken in advance to reduce the impact of a release on the surrounding environment. Primary and secondary containment or shielding by sheltering-in-place protects people and

property from the harmful effects of a hazardous material release. Exacerbating conditions, characteristics that can enhance or magnify the effects of a hazardous material release include:

- **Weather conditions.** Affects how the hazard occurs and develops.
- **Micro-meteorological effects of buildings and terrain.** Alters dispersion of hazardous materials
- **Non-compliance with applicable codes (e.g. building or fire codes) and maintenance failures (e.g. fire protection and containment features).** Can substantially increase the damage to the facility itself and to surrounding buildings.

The severity of the incident is dependent not only on the circumstances described above, but also with the type of material released and the distance and related response time for emergency response teams. The areas within closest proximity to the releases are generally at greatest risk, yet depending on the agent, a release can travel great distances or remain present in the environment for a long period of time (i.e., centuries to millennia for radioactive materials), resulting in extensive impacts on people and the environment.

A worst-case scenario event of a hazardous material release would be if a release occurred in the most populous areas. A hazardous material release would likely cause the evacuation of all nearby residents. Alternatively, a release on a major regional highway, such as 340, could injure motorists and/or shut down traffic for hours.

The environmental impacts of hazardous material releases include:

- Hydrologic effects – surface and groundwater contamination
- Other effects on water quality such as changes in water temperature
- Damage to streams, lakes, ponds, estuaries, and wetland ecosystems
- Air quality effects – pollutants, smoke, and dust
- Loss of quality in landscape
- Reduced soil quality
- Negative health effects on residents
- Damage to plant communities – loss of biodiversity; damage to vegetation
- Damage to animal species – animal fatalities; degradation of wildlife and aquatic habitat; pollution of drinking water for wildlife; loss of biodiversity; disease.

A major incident involving significant injuries may severely tax regional medical services, as medical facilities aren't generally designed to handle mass amounts of victims on short notice. Consequently, in the event of a major incident, hospitals and other medical facilities must still be able to provide their customary level of service to all patients, regardless of whether they were incident victims or not.

4.4.14.7. Structures

Areas that are home to one or more hazardous materials facilities should be considered vulnerable to hazardous materials releases from fixed facilities. Table 4-52 shows the most significant TRI facilities in Jefferson County. Within a 1.5-mile radius from each TRI facility shown in the table, there are 14,530 structures. This represents about 15 percent of all buildings in Jefferson County. Within a 1.5-mile radius from each TRI Facility listed, there are 221 critical facilities, representing about 26 percent of all critical facilities in Jefferson County. These findings are summarized in Table 4-52.

Table 4-52: Structures and Critical Facilities Vulnerable to Hazardous Materials Release

Jurisdiction	Total Structures	Structures in Hazardous Materials Area	% Structures in Hazardous Materials Area
Jefferson County Unincorporated	93,957	14,530	15%
Bolivar	1,552	0	0%
Charles Town	7,278	4,562	63%
Harpers Ferry	742	0	0%
Ranson	6,912	6,298	91%
Shepherdstown	1,312	0	0%
Jefferson County Total	111,753	25,390	23%
Jurisdiction	**Total Critical Facilities**	**Critical Facilities in Hazardous Materials Area**	**% Critical Facilities in Hazardous Materials Area**
Jefferson County Unincorporated	604	81	13%
Bolivar	6	0	0%
Charles Town	99	83	84%
Harpers Ferry	54	0	0%
Ranson	58	57	98%
Shepherdstown	31	0	0%
Jefferson County Total	852	221	26%

Source: 2021 National Analysis Dataset (updated May 2023, released May 2023), SP&D 1.5 Mile Buffers Zones, & Jefferson County Building Footprints and Address Points (2023)

4.4.14.8. Systems

A hazmat release while in transit is of great concern to the U. S. Department of Transportation. While most hazardous materials are stored and used at fixed sites, these materials are usually produced elsewhere and shipped to the fixed facility by rail car, truck, or onboard ships or barges. These vehicles are identified by signs or placards denoting the hazard. However, the possibility of release is present at any time. Hazardous materials are constantly being moved in West Virginia on road networks, rail systems and on waterway shipping lanes.

There are two major agencies that collect data as they relate to hazardous materials incidents the Pipeline and Hazardous Materials Safety Administration (PHMSA) governed by the U.S. Department of Transportation (DOT), and the National Response Center (NRC), governed by the U.S. Coast Guard (USCG).

The types of materials that can cause a hazmat release are wide-ranging and may include chlorine, sodium hydroxide, sulfuric acid, radioactive isotopes, anhydrous ammonia, gasoline and other hydrocarbons, as well as medical/biological waste from hospitals or clinics. Hazardous materials subject to reporting under the Emergency Planning and Community Right-to-Know Act (EPCRA) or Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) include these four groups:

- Extremely Hazardous Substances (EHS) – These are materials with acutely toxic properties that may do irreversible damage or cause death to people or harm the environment when released or used outside their intended use. Examples include ammonia, chlorine, and sulfuric acid.
- Hazardous Substances – These are any materials posing a threat to human health and/or the environment, or any substance designated by the Environmental Protection Agency (EPA) to be reported if a designated quantity of the substance is spilled into the waters of the United States or is otherwise released into the environment.
- Hazardous Chemicals – If present at a chemical facility in certain amounts, these substances require a Material Safety Data Sheet (MSDS) under the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard. Such substances are capable of producing fires and explosions or adverse health effects such as cancer, burns, or dermatitis.
- Toxic Chemicals – Chemicals or chemical categories that appear on the list because of their chronic or long-term toxicity.

In 2016, Jefferson County updated the county commodity flow study (CFS) and included information on highways, railways, and covered facilities. The following is a brief description of the findings of the CFS.

Highway

Approximately 49.2% of the total placarded vehicles recorded were carrying Class 3 (Flammable Liquids). Class 2 (Gases) were the second-most frequently carried materials (30%), followed by Class 8 (Corrosives, 8.3%).

Conclusions drawn from the CFS regarding highways included the following.

- National hazardous material incident trends generally predicted the hazardous materials that would be seen locally.
- Class 3 Flammables are involved in the most incidents nationally and were the most frequently recorded materials in Jefferson County, making up nearly half of all observed placards.

- Class 8 materials were involved in the second most number of highway incidents nationally, but these materials represented only 5% of observed placards in Jefferson County.
- Class 2 materials are involved in the third most highway incidents nationally and are the second most prevalent materials observed in Jefferson County.
- Gasoline (UN 1203) was the single-most recorded material in the study. Though a multitude of materials was observed during the study, the highway analysis alone suggests that local responders should primarily prepare for incidents involving flammable liquids, gases, and Class 9 materials.
- Commodity flow studies are significantly affected by the time of day, week, and even year in which they are conducted (i.e., monitoring the study area one week earlier or later could yield different results based on the shipping schedules and needs of covered facilities).

Table 4-53: Highway Risk Analysis Summary

Roadway Name	Miles in Jefferson County	Accidents with Placarded Loads per Year
U.S. Route 340	32.38	0.425
State Route 9	15.8	0.147
State Route 45	2.58	0.009
State Route 115	4.13	0.011
State Route 51	8.81	0.012

Source: Jefferson County CFS (2016)

Railway

Due to the low probability of rail accidents involving hazardous materials and the past track record of very few hazmat rail accidents, Jefferson County is much more likely to experience a hazardous material event due to a roadway accident rather than to a rail accident. A significant number of materials transported by rail in Jefferson County are passing through the county, and not bound for a facility within the jurisdiction. Half of the materials listed are found only in the rail analysis.

Covered Facilities

Materials reported as part of the covered facilities analysis represent all hazard classes. Further, given the frequency of shipment information provided by covered facilities, it becomes clear that shipments of some materials could only be observed if field reconnaissance was completed for months or even up to a year. As such, it can be assumed that emergency responders should plan and prepare for hazardous material incidents from any hazard class.

4.4.14.9. Resources & Community Activities

It is more cost-effective to assess potential effects from a disaster and to implement preventative measures than to wait for a disaster to strike and then assess actual impacts. Determining which resources and community activities that are likely to be damaged in a disaster and applicable protection measures is advisable. This can be somewhat challenging with certain hazards that do not have a defined hazard area, as is the case with the transportation of hazardous materials. However, transporting hazardous materials means meeting strict safety standards and regulations set forth by the Federal Motor Carrier Safety Administration (US DOT FMCSA, 2022) and OSHA. Minimizing exposure to populated areas during the transport of hazardous materials can mitigate impacts to people and property in the event of a spill. Natural, historic, and cultural resources along transportation corridors may be at-risk, chemical transported dependent, to a hazmat incident. Both evacuation procedures and shelter-in-place emergency messaging for potential hazmat incidents are in-place in Jefferson County.

National Register of Historic Places located within the 1.5-mile radius of the significant (5) TRI facilities.

Table 4-54: National Register of Historic Places Vulnerable to Hazardous Materials Release

TRI Facility	Historic Building Name
US CBP Advanced Training Center 440 Koonce Road Harpers Ferry, WV, 25425	Allstadt House and Ordinary
	Halltown Colored Free School
	Halltown Union Colored Sunday School
Rockwool USA 665 Northport Avenue Kearneysville, WV, 25430	Hazelfield
	Tackley Farm
Ox Paperboard LLC 164 Eyster Rd Harpers Ferry, WV, 25425	Beall-Air
	Halltown Colored Free School
	Halltown Union Colored Sunday School
	Rion Hall
Griffith Energy Services Inc. 110066 Middleway Pike Charles Town, WV, 25414	Charles Town Mining, Manufacturing, & Improvement Company Building
	Gibson--Todd House
	Jacks-Manning Farm
	Jefferson County Courthouse
	New Opera House
	Charles Washington House
	Robert Worthington House
UFP Ranson LLC 249 16th Avenue Ranson, WV, 25438	Aspen Hill
	Charles Town Mining, Manufacturing, & Improvement Company Building
	Jefferson County Courthouse
	New Opera House

Source: 2021 National Analysis Dataset (updated May 2023, released May 2023), SP&D 1.5 Mile Buffers Zones, & 2020 National Register of Historic Buildings (Note: most recent update of National Register of Historic Buildings was in 2020.)

4.4.15. Terrorism

4.4.15.1. Location and Extent

This profile is intentionally generalized. Jefferson County Homeland Security and Emergency Management (JCHSEM) have identified a number of potential terrorist-related targets throughout the county and maintain files of such information separately from this document.

Terrorist attacks can occur anywhere. The term "terrorism" refers to intentional, criminal, malicious acts, but the functional definition of terrorism can be interpreted in many ways. Officially, terrorism is defined in the Code of Federal Regulations as "the unlawful use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives" (28 CFR §0.85).

Acts of terrorism include threats of terrorism; assassinations; kidnappings; hijackings; bomb scares and bombings; cyber-attacks (computer-based attacks); and the use of chemical, biological, nuclear, and radiological weapons (FEMA, n.d.). An important consideration in evaluating terrorism hazards is the existence of facilities, landmarks, or other buildings of international, national, or regional importance. Several federal government buildings and Harper's Ferry, a significant landmark in terms of national importance are located in Jefferson County. Threats against the agricultural community and major transportation corridors, however, could be potential terrorist targets. The Eastern Panhandle could also be impacted by terrorism due to its proximity to the National Capital Region, which is one of the most target-rich areas of the country. Should a terrorist strike the National Capital Region, the region could see a mass influx of residents evacuating the area and major highways such as I-81 could become impassable due to the volume of traffic. The region could also suffer the indirect economic effects of the incident as many residents work in or close to D.C.

Any acts of terrorism can occur anywhere at any time of day. The National Terrorism Advisory System (NTAS) communicates information about terrorist threats by providing detailed information to the public, government agencies, first responders, airports and other transportation hubs, and the private sector. When there is a threat, an NTAS Alert will be announced by the Secretary of Homeland Security and will be shared with the public. It may include specific information about the nature of the threat, including the geographic region, mode of transportation, or critical infrastructure potentially affected, as well as steps that individuals and communities can take to protect themselves and help prevent, mitigate or respond to the threat. The alert indicates whether the threat is elevated or imminent. Elevated threats are when there is no specific information about the timing or location. Imminent threats are when it is believed the threat is impending or very soon. The alerts will be posted online and released to the news media for distribution. The United States Department of Homeland Security (USDHS) will also distribute alerts through its social media channels (USDHS 2013).

The West Virginia Fusion Center also exists to provide resources, expertise, and information to the center with the goal of maximizing the ability to detect, prevent, investigate, and respond to criminal and terrorist activity. Intelligence processes through which information is collected, integrated, evaluated, analyzed, and disseminated are a primary focus. Data fusion involves the exchange of information from different sources including law enforcement, public safety, and the private sector. Relevant and actionable intelligence results from analysis and data fusion. The fusion process helps agencies be proactive and protect communities.

Possible Causes

There is no single cause of acts of violence; it is typically a non-rational, complicated, intertwined, series of reasons that have the outcome of violence. In his article Causes of Terrorism, Nick Grothaus lays out the most common causes cited by leaders in the field of counterterrorism. These categories may apply to other types of violence not related to terrorism.

- Ethno-Nationalism: The desire of a population to break away from a government or ruling power and create a state of their own.
- Alienation/Discrimination: Individuals or groups face discrimination leading to further feelings of isolation. These people may become jaded towards society and feel excluded.
- Religion: Religion as a part of terrorism has been mainly attributed to Islamic fundamentalism although other religions have also had involvement in terrorist activities. For example, Christian Fundamentalists target abortion clinics, the Aryan Nation and the Church of Christ, Christians target the Jews and minorities (Post, 2007, pp. 211-212).
- Socio-Economic Status: Individuals and groups may be driven by a sense of relative depravation and lack of upward mobility within society.
- Political Grievances: A lack of political inclusiveness or grievances against a certain political order may cause individuals to join or create terrorist groups.

4.4.15.2. Range of Magnitude

The term “terrorism” refers to intentional, criminal, and malicious acts, but the functional definition of terrorism can be interpreted in many ways. The Federal Bureau of Investigation (FBI) classifies terrorism into two categories (FBI, 2023):

- **International terrorism:** Violent acts committed by individuals and/or groups inspired by or associated with designated foreign terrorist organizations or nations (statesponsored), and
- **Domestic terrorism:** Violent, criminal acts carried out by individuals and/or groups to further ideological goals stemming from domestic influences, such as those of a political, religious, social, racial, or environmental nature

FEMA defines the three main goals of terrorism as causing public fear, convincing citizens that the

government cannot protect against terrorism, and making the motivating causes known to the public. Terrorist attacks can take many forms. FEMA identifies the following as some of the common tactics of terrorism (FEMA, 2004):

- Agriterrorism—food contamination or destruction of crops via pest introduction or disease agents
- Arson/incendiary attack
- Armed attack
- Assassination
- Biological agent
- Chemical agent
- Cyberterrorism
- Conventional bomb
- Hijackings
- Intentional hazardous material release
- Kidnapping
- Nuclear bomb
- Radiological agent

The West Virginia State Fusion Center defines eight signs of Terrorism (West Virginia Fusion Center, 2023):

- **Surveillance:** Someone recording or monitoring activities. This may include the use of cameras, note taking, drawing diagrams, annotating on maps, or using binoculars or other vision-enhancing devices.
- **Elicitation:** People or organizations attempting to gain information about operations, capabilities, or people. Elicitation attempts may be made by mail, email, telephone, or in person. This could also include eavesdropping or friendly conversation.
- **Tests of Security:** Any attempts to measure reaction times to security breaches, attempts to penetrate physical security barriers, or monitor procedures in order to assess strengths and weakness.
- **Funding:** Suspicious transactions involving large cash payments, deposits, or withdrawals. Collections for donations, the solicitation for money, and criminal activity are common signs of terrorist funding.
- **Supplies:** Purchasing or stealing explosives, weapons, ammunition, etc. This also includes acquiring military uniforms, decals, flight manuals, passes or badges (or the equipment to manufacture such items), and any other controlled items.
- **Impersonation:** People who do not seem to belong in the workplace, neighborhood, business establishment, or anywhere else.
- **Rehearsal:** Putting people in position and moving them around according to their plan without actually committing the terrorist act.

- **Deployment:** People and supplies getting into position to commit the act. This is the person's last chance to alert authorities before the terrorist act occur.

The severity of terrorist incidents depends upon the method of attack, the proximity of the attack to people, animals, or other assets and the duration of exposure to the incident or attack device. For example, chemical agents are poisonous gases, liquids or solids that have toxic effects on people, animals, or plants. Many chemical agents can cause serious injuries or death. In this case, severity of injuries depends on the type and amount of the chemical agent used and the duration of exposure.

Biological terrorist incidents have a somewhat low probability of occurring in Jefferson County. These incidents include the release of diseases such as smallpox into the general population for destructive purposes. Biological events have an extremely high risk associated with them, as the effects of such an event can exceed the capabilities of the healthcare facilities located in Jefferson County and the loss of human life can be disastrous. While preparedness is improving, Jefferson County is not equipped on the local level to cope with a large-scale terrorist incident.

Chemical terrorist incidents are comparable to biological incidents in that they have a relatively low probability of occurring, yet are associated with an extremely high risk. Chemical incidents include the use of weapons that subject the general population to toxic chemicals similar to those that could be released during a hazardous materials incident. Chemical incidents are capable of subsequent losses to large percentages of the population. Jefferson County does contain public water systems, which makes the threat of small-scale biological and chemical attacks plausible.

An active shooter, as defined by the FBI, is an individual actively engaged in killing or attempting to kill people in a confined area (FBI, 2022b). In most cases, active shooters use firearms and there is no pattern or method to their selection of victims. No substantive research has yet been compiled to address the potential vulnerability to an active shooter incident. Some of these incidents have occurred in public places, and some in places that are considered more restricted like schools. There is no discernible pattern to the location chosen by the shooters.

Events involving explosive Weapons of Mass Destruction (WMDs) also have a relatively low probability of occurring in Jefferson County. However, in the event that a nuclear or other large explosive device was to discharge in or near the county, the inherent loss of life could be catastrophic. A WMD threat is ever present and the reduction of such threat is dependent upon the actions of other countries, which are unpredictable. As long as there are weapons, and the capability to deliver those weapons, the threat will remain. The Department of Defense estimates that as many as 26 nations may possess chemical agents and/or weapons and an additional 12 may be seeking to develop them.

Railroad facilities are another example of potential terrorist targets. Dams and water and sewage treatment facilities are likewise potential targets. Facilities in neighboring counties may also be susceptible to WMD-type attacks and may affect Jefferson County indirectly.

There are also several SARA Title III facilities and a few major transportation routes that traverse the region; making intentional hazardous material releases a potential threat to citizens and the environment. This hazard is addressed in Section 3.3.18. Critical facilities including police stations, hospitals, fire stations, schools, wastewater treatment plants, and water supply facilities, may be potential terrorist targets.

A terrorism event can cause public fear regarding the use of mass transportation or leaving their homes in the event of a biological or nuclear attack. Communication systems, both public and private, can fail because of an overwhelming amount of usage or damage to its infrastructure. Healthcare facilities can become quickly inundated and must be prepared to triage injured patients, handle mass casualties, and conduct decontamination operations.

The secondary hazards resulting from a terrorist attack depend on the size and scope of the incident. Some possible secondary hazards include widespread utility failure, health effects such as epidemics or pandemics, flooding (if a dam was destroyed), and environmental contamination. Also of concern is the disruption an attack may cause to the State's government facilities.

4.4.15.3. Past Occurrence

Nathan Clark, 25, was arrested in Charles Town, West Virginia, on August 12, 2019, after someone alerted authorities to posts Clark allegedly made online threatening to kill people (Ta, 2019). Authorities were alerted after someone allegedly found threatening comments Clark made online saying he was going to kill people. After a thorough investigation, Clark was charged with making terroristic threats. During the investigation, several PVC pipes and pistols were also confiscated at Clark's home.

4.4.15.4. Future Occurrence

The probability of terrorism occurring cannot be quantified with as great a level of accuracy as that of many natural hazards. Furthermore, these incidents generally occur at a specific location, such as a government building, rather than encompassing an area such as a floodplain. Thus, planning should be asset-specific, identifying potentially at-risk critical facilities and systems in the community. Once a comprehensive list of critical assets has been developed, it should be prioritized so that efforts can be directed to protect the most important assets first. Then, beginning with the highest-priority assets, the vulnerabilities of each facility or system to each type of hazard should be assessed.

For the purpose of developing a realistic prioritization of terrorism hazard mitigation projects, three elements should be considered in concert:

- Relative importance of the various facilities and systems in the asset inventory
- Vulnerabilities of those facilities
- Threats that are known to exist

Critical assets and infrastructures are systems whose incapacity or destruction would have a debilitating effect on the county:

- Emergency services
- Government services
- Water supply systems
- Transportation networks
- Telecommunications infrastructure
- Electrical power systems
- Gas and oil facilities

The Cabinet Secretary of the Department of Homeland Security serves as the Homeland Security Advisor (HSA) for West Virginia. The HSA is responsible for coordinating, designing, and implementing West Virginia's program for homeland security. As HSA, the secretary is the principal point of contact between the State of West Virginia and the federal government with respect to homeland security issues. The HSA keeps the governor advised of all homeland security matters and is the main point of contact for the governor on these issues.

Within the Department of Homeland Security resides the State Administrative Agency (SSA). Its primary responsibility is planning and implementation of measures in direct support of homeland security; federally, regionally and locally. The SAA provides guidance, direction and coordination in mobilizing, organizing, and preparing the State of West Virginia for acts of terrorism and man-made or natural disasters. The SAA develops and coordinates the implementation of a comprehensive state strategy and performs the functions necessary to carry out the mission.

4.4.15.5. Vulnerability Assessment

Since the probability of terrorism occurring cannot be quantified in the same way as that of many natural hazards, it is not possible to assess vulnerability in terms of likelihood of occurrence. Instead, vulnerability is assessed in terms of specific assets. By identifying potentially at-risk terrorist targets in a community, planning efforts can be put in place to reduce the risk of attack. All communities in Jefferson County are vulnerable on some level, directly or indirectly, to a terrorist attack. However, communities where specific potential targets are located should be considered more vulnerable. FEMA's Integrating Manmade Hazards into Mitigation Planning (2003) encourages site-specific assessments that should be based on the relative importance of a particular site to the surrounding community or population, threats that are known to exist and vulnerabilities including:

Inherent Vulnerability

- Visibility – How aware is the public of the existence of the facility?
- Utility – How valuable might the place be in meeting the objectives of a potential terrorist?

- Accessibility – How accessible is the place to the public?
- Asset mobility – is the asset's location fixed or mobile?
- Presence of hazardous materials – Are flammable, explosive, biological, chemical and/or radiological materials present on site? If so, are they well secured?
- Potential for collateral damage – What are the potential consequences for the surrounding area if the asset is attacked or damaged?
- Occupancy – What is the potential for mass casualties based on the maximum number of individuals on site at a given time?

Tactical Vulnerability

Site Perimeter

- Site planning and Landscape Design – Is the facility designed with security in mind – both site-specific and with regard to adjacent land uses?
- Parking Security – Are vehicle access and parking managed in a way that separates vehicles and structures?

Building Envelope

- Structural Engineering – Is the building's envelope designed to be blast-resistant? Does it provide collective protection against chemical, biological, and radiological contaminants?

Facility Interior

- Architectural and Interior Space Planning – Does security screening cover all public and private areas?
- Mechanical Engineering – Are utilities and HVAC systems protected and/or backed up with redundant systems?
- Electrical Engineering – Are emergency power and telecommunications available? Are alarm systems operational? Is lightning sufficient?
- Fire Protection Engineering – Are the building's water supply and fire suppression systems adequate, code-compliant, and protected? Are on-site personnel trained appropriately? Are local first responders aware of the nature of the operations at the facility?
- Electronic and Organized Security – Are systems and personnel in place to monitor and protect the facility?

Community Lifelines and Critical Facilities

All community lifelines and critical facilities are vulnerable to terrorism.

Socially Vulnerable and Total Populations

Because the entire population of Jefferson County is exposed and vulnerable to terrorism, the exposed population in socially vulnerable communities is equal to the statewide population. A survey found that persons with disabilities were more anxious about their personal risk from terrorism than were persons without disabilities, even when equally prepared. Another study reported that persons who increased their disaster preparations in response to the possibility of terrorist attacks included African Americans, Latinos, persons with disabilities or household dependents, and non–US-born populations (Eisenman, et al. 2009).

General Building Stock

All general building stock is vulnerable to terrorism.

Environmental Resources

Terrorism and targeted violence has the potential for harmful effects not only on economic and social life but also on the environment, particularly if such incidents impacts certain critical infrastructure such as water/wastewater, dams, or other systems that result in physical implications for the environment in which they reside. The environmental damage caused by terrorism includes but is not limited to terrestrial conflicts, terrorist camps and bases, training activities, and carbon dioxide emissions related to energy consumption (Bildirici and Gokmenoglu 2020).

Cultural Assets

All cultural assets are vulnerable to terrorism.

FUTURE CHANGES THAT MAY IMPACT STATE VULNERABILITY

Understanding future changes that impact vulnerability in the county can assist in planning for future development and ensuring that appropriate mitigation, planning, and preparedness measures are in place. The county considered the following factors to examine potential conditions that may affect hazard vulnerability:

- Change in the nature of terrorism/targeted violence threat actors of concern
- Potential or projected development
- Projected changes in population
- Other identified conditions as relevant and appropriate.

4.4.16. New Hazard - Cyber Security

Cyber terrorism is a broad term that refers to acts associated with the convergence of terrorism and cyberspace. Generally, cyber terrorism involves unlawful attacks or threats against computers, networks, and the information stored therein to intimidate or coerce a government or its people to achieve political or social objectives (Denning, 2000). These acts can range from taking control of a host website, to using networked resources to directly cause destruction and harm.

The Cyber Security and Infrastructure Security Agency web page maintains that cyber-attacks can come in many forms. Malware, Phishing, and Ransomware are becoming increasingly common forms of attack and can affect individuals and large organizations. Malware is any software used to gain unauthorized access to IT systems in order to steal data, disrupt system services or damage IT networks in any way. Ransomware is a type of malware identified by specified data or systems being held captive by attackers until a form of payment or ransom is provided. Phishing is online scam enticing users to share private information using deceitful or misleading tactics. CISA offers a variety of tools and resources that individuals and organizations can use to protect themselves from all types of cyber-attacks.

CISA is constantly monitoring cyberspace for new forms of malware, phishing, and ransomware. Offer numerous tools, resources, and services to help identify and protect against cyber-attacks. CISA also collaborates with governments at all levels as well as internationally and private sector entities to share information and collaborate in securing our networks on national and global scales. Defending against cyber-attacks requires coordination across many facets of our nation, and it is CISA's mission to ensure we are armed against and prepared to respond to ever-evolving threats.

4.4.16.1. Location and Extent

Cyber-attacks may not always constitute acts of cyber terrorism because some acts may have relatively small impacts and only produce annoyances. A cyber-attack is generally considered an act of cyber terrorism when the following motivations are present:

- **Effects-based:** When computer attacks result in effects that are disruptive enough to generate fear comparable to a traditional act of terrorism.
- **Intent-based:** When unlawful or politically motivated computer attacks are done to intimidate or coerce a government or people to further a political objective, or to cause grave harm or severe economic damage (Rollins and Wilson, 2007).

Cyber-attacks can be further divided into the following categories based on the complexity of the attack:

- **Simple-Unstructured:** Simple-unstructured attacks are the most common. These are amateurish attacks with relatively minimal consequences.

- **Advanced-Structured:** Advanced-structured attacks are more sophisticated and consequential and have a greater emphasis on targeting victims prior to an attack, resulting in a more debilitating effect.
- **Complex-Coordinated**: Complex-coordinated attacks are the most advanced and most troublesome type of attacks where success could mean a network shutdown (Denning, 2000).

Cyber terrorism can cause severe disruptions to transportation, public safety, and utility services, all of which are critical infrastructure that are highly dependent on information technology. Cyber terrorism can take many forms, including attacks through physical means, electronic means, and use of malicious code. Cyber terrorists can also have a wide range of personal, political, or cultural agendas. All state agencies, as well as individuals, businesses, and other institutions in the region, are potential targets for cyber terrorism. Potential threats include identity theft, loss of sensitive information, disruption of services, and other malicious activity.

Cyber terrorists can be difficult to identify because the internet provides a meeting place for individuals from various parts of the world. Individuals or groups planning a cyber-attack are not organized in a traditional manner, as they are able to effectively communicate over long distances without delay. Cyber-attacks are also unpredictable and typically occur without warning.

4.4.16.2. Past Occurrences

During the COVID-19 Pandemic of 2020-2021, more than 50,000 West Virginians received attempted unemployment scam in their mail or email. Scott Adkins, acting commissioner with Workforce West Virginia, said they received more than 50,000 fraudulent claims based around the Pandemic Unemployment Assistance (PUA) program (WSAZ 3, 2020). Many attacks seemed to stem from credit bureau data breaches that exposed personally identifying details, and public officials sought to shore up government defenses to avoid agencies falling to such a breach themselves. This led to the creation and signing by Governor Jim Justice of the Creating WV Cyber Incident Reporting Bill. The legislation is designed to lay the groundwork for tightening up cyber defenses and enable faster response to threats by helping state officials better understand the scope of problems impacting various agencies, learn about attacks soon after they happen, and regularly review defense strategies (Patterson-Gordon, 2021).

On May 7, 2021, the Colonial Pipeline suffered a ransomware attack that impacted equipment managing the pipeline. In response, the Colonial Pipeline Company halted all the pipeline's operations. This caused gas shortages across the east coast, with some (limited) effects in West Virginia. This was the largest cyberattack on an oil infrastructure target in the history of the United States.

Another large-scale attack was the Equifax data breach in 2017, which was estimated to potentially impact over 700,000 residents of West Virginia and over 145.5 million nationally. The information accessed included names, Social Security numbers, birthdates, addresses, and driver's license numbers (WHSV, 2019). Additionally, in 2014 the largest data breach in history impacted over 3 billion Yahoo user accounts,

including the names, email address, date of birth, and telephone numbers of over 500 million users (CSO, 2018). In terms of a data breach cyber-attack, this could be considered a worst-case scenario event. Large-scale data breach events are becoming more common.

Locally, the Jefferson County Commission experienced a cybersecurity event in December 2022. The Jefferson County Department of Information Technology took immediate action to isolate the impacted system, execute the department's cybersecurity protection protocols, and restrict any further unauthorized activity.

Per West Virginia State Code, this incident was reported to the WVOT in addition to the relevant federal and state law enforcement authorities for further investigation. No personal information was compromised, and Jefferson County residents experienced no disruption of County services.

In addition to large-scale acts of cyber terrorism, smaller cyber-attacks occur daily. Billions of emails are sent each day, and spam and phishing emails account for a significant share of all email traffic. Additionally, brute force attacks, which are trial and error attempts to obtain user passwords and pins, are frequently used by criminals attempting to crack encrypted data or gain access to private accounts. Firewalls can be effective at keeping security threats such as these out, but once a cybercriminal gains access to a system, they can attack from within. For example, gaining access to a state employees email account would allow a hacker to send additional phishing emails from within a network, which may not be as monitored as closely as attacks from outside the system. This is known as spear phishing.

4.4.16.3. Future Occurrences

Cyber terrorism is an emerging hazard that has the potential to impact the region's computer infrastructure and the systems and services that are provided to the public. Concerns about cyber terrorism throughout the United States are growing as its impacts could have potentially crippling effects. Security experts describe the threat of cyber terrorism as imminent.

West Virginia Office of Technology website details mitigation tactics that individuals and business owners can take to prevent breaches in cybersecurity, including daily cybersecurity tips and presentations (WV Office of Technology, 2021).

4.4.16.4. Range of Magnitude

In recent years, cyber terrorism has become a significant threat and can impact people, businesses, institutions, local governments, and state agencies to varying degrees. Impacts from a large-scale cyber terrorism event could disrupt the state's economy and potentially threaten its economic stability. The magnitude of a cyber terrorism attack will vary greatly based on the extent of systems affected and duration of the impact. Additionally, the magnitude will vary based upon which specific system is affected by an attack, the ability to preempt an attack, and an attack's effect on continuity of operations. The largest threat to institutions from cyber terrorism comes from any processes that are networked and

controlled via computer. The county and individual municipalities should address and take measures to reduce any vulnerabilities that could allow access to sensitive data or processes.

The West Virginia Office of Technology (WVOT) developed Executive Branch security standards, policies, and procedures for use by Executive Branch agencies, as well as to provide best practices guidelines for all other State and local organizations. With these policies in hand, agencies, with the assistance of the WVOT, develop their own procedures as needed. In addition, supplemental documents covering topics that are not included in the umbrella documents, or those that treat the same matters more stringently, are acceptable.

Under WVOT the West Virginia Cyber Security Office is charged with enhancing the overall information security posture of the Executive Branch of West Virginia State Government. The mission of the CSO is to support the goals of the State by assuring the availability, integrity, and appropriate confidentiality of information. Primary objectives include the development and implementation of proactive measures to prevent security problems, as well as an effective response to security incidents when those prevention methods are defeated. The CSO encompasses three main categories: information security management, risk management, and incident handling.

Goals

- Maintain compliance with legal regulatory requirements
- Implement practical measures to protect the State's data and systems from compromise
- Adopt best practices in order to safeguard all forms of information

WVOT And the Cyber Security Office is charged with a series of activities:

Technology Audits

Audit efforts are focused on areas presenting the highest degree of risk, and where risk mitigation will provide the greatest potential benefit to the Executive Branch. The Audit Program also reviews internal controls within the WVOT operations and will conduct audits of selected 3rd party providers at their off-site locations.

Technology Policies

The WVOT has created a general security policy, and other security-related policies and procedures, for the Executive Branch of West Virginia government. Agencies may establish more stringent policy supplements, but duplication of content should be avoided. Each agency developing a security policy supplement must submit it to the WVOT for review/approval.

Information Security Training

The State of West Virginia utilizes a learning management system to deploy required, security and privacy

training to all employees of the Executive Branch. Electronic security tips and awareness videos are released on a regular basis.

Security Operations Center (SOC)

- Traffic analysis, event correlation
- Threat analysis and alerts
- Vulnerability scanning of state network
- Web activity monitoring and site blocking
- Network violation management
- Support OISC Audit program

Computer Security Incident Response Team (CSIRT)

Maintains policies and procedures for incidents, maintain central point of contact for reporting incidents, and complete professional digital forensic investigations.

4.4.17. Vulnerability Assessment

4.4.17.1. People

All communities in Jefferson County are vulnerable on some level, directly or indirectly, to a cyber terrorism attack. However, in general, areas with higher concentrations of government or industry facilities may have higher risk.

4.4.17.2. Structures

All county and municipal facilities are vulnerable to cyber terrorism. While the physical structures of these buildings are generally not at risk, information systems and data stored within them are vulnerable. Government computer networks contain sensitive information that is integral to the security of the State and could be the target of a cyber-attack.

4.4.17.3. Systems

County and municipal governments possess and maintain resident personal and financial information, including tax filings, birth and death records, Social Security numbers, medical information, and more. Additionally, many critical facilities that are essential to Jefferson County's operations are reliant upon computer networks to monitor and control critical functions. For example, an attack on internet access or the power grid could have detrimental impacts on county services and functions. Additionally, a large-scale computer breach could lead to economic costs in lost productivity to the impacted agency/organization and potentially related businesses and industries. However, lost revenues and productivity would depend on the type of magnitude of the cyber terrorism event.

4.4.17.4. Resources and Community Activities

Generally, cyber terrorism has no direct effect on the environment; however, the environment may be affected if a hazardous materials release occurred because of critical infrastructure failure as a result of cyber terrorism. Similarly, an act of cyber terrorism on a nuclear facility could have devastating environmental consequences if the plant suffered an intentional catastrophic failure.

West Virginia is among the top 10 states nationwide to offer foundational computer science courses to public school students. West Virginia is a pioneer in creating a computer science K-12 pathway for all students. Governor Jim Justice signed Senate Bill 267 in 2019, which charged the WVDE with reaching all public-school students with computer science. This law makes the Mountain State one of the first to require all students to start their computer science education in elementary school and be exposed to a variety of computer science experiences throughout their K-12 career.

Local events:
https://www.dcnewsnow.com/news/local-news/west-virginia/jefferson-county-contracts-for-cyber-security-monitoring/

4.4.18. New Hazard - Utility Interruption

4.4.18.1. Location and Extent

Table 4-55: Major Utility Companies in Jefferson County

Company Name	Type of Utility
First Energy, Potomac Edison	Electricity
Mountaineer Gas Company	Natural Gas
AmeriGas Propane	Propane Gas
Roach Energy	
ThompsonGas – Bel Air& Huntfield	
Blossman Gas	
Shawley's LP Gas	
Suburban Propane	
Verizon	Telecom
Frontier Communications	
Xfinity - Comcast Cable	

Source: JCHSEM, 2023

Utility interruptions include any impairment of the functioning of telecommunication, gas, electricity, water, or waste networks. Interruptions or outages occur because of geomagnetic storms, fuel or resources shortage, electromagnetic pulses, information technology failures, transmission facility or linear utility accident, and major energy, power, or utility failure. The focus of utility interruptions as a hazard

lies in fuel, energy, or utility failure. These kinds of interruptions rarely spontaneously occur on their own; this hazard is often secondary to other natural hazard events, particularly transportation crashes and incidents, lightning strikes, extreme heat or cold events, and coastal and winter storms. The causes for outages are usually downed power wires or utility poles as a result of inclement weather or vehicle incidents. Additionally, outages can be caused by blown transformers or tripped circuit breakers. Most often, there is no cause reported and power is restored within the hour.

Utility interruptions in Jefferson County occur regularly but are usually small-scale, localized incidents. Utility interruptions are possible anywhere there is utility service lists the major utility companies in the region. Utility interruptions and power failures can take place throughout the region.

According to the 2021 5-year American Community Survey, in Jefferson County, 72.0 percent of housing units use electricity as their heat source, followed by 11.1 percent of homes using propane gas for heat (US Census Bureau, 2021). As a result, an interruption in any of those utilities could affect a significant number of residents. In addition, an increasing reliance on internet access and telecommunications could also impact many residents at any given time.

4.4.18.2. Past Occurrence

According to the State of West Virginia 2023 Hazard Mitigation Plan, Section 5.14 Utility Failure, between 2010 and 2022, a total of 12 utility failure events occurred across the state. These failures were due to various hazard events including thunderstorm wind, blizzards, high wind, extreme cold, flash flood, flood, and winter storm.

Jefferson County has a hazard history of utility interruptions as shown on Table 4-56. The table shows a sample of power outage events in the area reported in the National Centers for Environmental Information. It is not a comprehensive list, but it does represent the impact of recent utility interruptions.

Table 4-56: Recent Utility Interruptions in Jefferson County (2015-July 2023)

Date	Cause	Location	Narrative
7/5/2017	Tornado	Charles Town	The National Weather Service in Baltimore MD/Washington DC confirmed a weak tornado near Charles Town in Jefferson County WV on July 05 2017. Debris from the roof of one barn was thrown into power lines, snapping a telephone pole. Projectile impacts were also noted in nearby barn roofs from two- by-four pieces of wood that were lofted by the tornado
6/29/2019	Thunderstorm Wind	Charles Town	A tree was blown down near the intersection of Oak Lee Drive and Jack Rabbit Lane. Power lines were also blown down in the 1500 block of Flowing Springs Road.
7/6/2020	Thunderstorm Wind	Charles Town	Numerous trees and power lines were blown down in Shenandoah Junction, mainly along Daniels Road and Shenandoah Junction Road. Some trees were snapped.
7/6/2020	Thunderstorm Wind	Bolivar/Harpers Ferry	Multiple trees and power lines blew down in the Harpers Ferry area.

Table 4-56: Recent Utility Interruptions in Jefferson County (2015-July 2023)			
Date	**Cause**	**Location**	**Narrative**
9/3/2020	Thunderstorm Wind	Kearneysville	A tree blew down onto power lines near the intersection of WV-480 Kearneysville Pike/Duke Street and WV-48/1 Persimmon Lane.
5/3/2021	Tornado	Charles Town	No Data Available
5/26/2021	Thunderstorm Wind	Charles Town	A dozen power poles blew down on Middleway Pike just west of Charles Town. A tree and wires blew down on 4th Street in Charles Town. Two trees blew down on East Washington Street in Charles Town.
8/13/2021	Thunderstorm Wind	Bardane	A power pole snapped as the result of a falling tree near the intersection of Charles Town Road and East Burr Boulevard.
7/15/2023	Thunderstorm Wind	Ranson	An isolated line of thunderstorms Friday evening in Jefferson County caused widespread damage and a host of problems for residents and emergency responders. The calls were for downed trees, live powerlines, and five separate structure fires. Calls came for a transformer fire in Ranson.

Source: National Centers for Environmental Information, July 2023; MetroNews

4.4.18.3. Future Occurrence

Utility interruptions will continue to occur annually with minimal impact. Widespread utility interruption events usually occur approximately once every five years, usually as a secondary effect of an extreme weather event. These interruptions should be anticipated, and first responders should be prepared during severe weather events. Research by the National Oceanic and Atmospheric Administration (NOAA) suggests that climate change may cause more extreme storms in West Virginia (Climate.gov, 2016).

Power outages can be expected at any time of year, on a nearly monthly basis. Iced power lines; falling tree limbs due to ice, wind, or lightning strikes; and vehicle incidents damaging power lines, or their support poles can all be reasons for power outages.

The region around Jefferson County is expected to see large increases in precipitation and numbers of very hot and very cold days (Climate Central, 2022). These factors can increase the occurrence of hazards such as flooding, hurricanes and tropical storms, landslides, tornados and windstorms, wildfires, and winter storms. Impacts from any of these hazards can lead to utility interruption on a range of scales. Overall, the probability of future utility outages impacting the region can be considered possible according to the Risk Factor Methodology.

Aging infrastructure also brings risk in the form of potential utility interruptions, particularly for places like Jefferson County with aging infrastructure. In many utility systems, significant portions of the equipment and facilities date from the growth periods of the 1950s and 1960s that followed World War II. As this equipment ages, it deteriorates from the constant wear and tear of service. Eventually the equipment reaches a point at which it will either fail on its own or because of outside forces (storms, loads it was designed to handle but no longer can, etc.). These failures cause service interruptions and can require

expensive emergency repairs. In addition, as repairs have taken place along transmission routes, there is often a mix of new and old equipment along the line, as repair and not replacement is generally the choice made to resolve an issue.

The wholesale replacement of a system is not a feasible solution for utility companies. This would require the interruption of services while the replacement occurs, as well as accessing the existing system (which may lie under roads, private property, or other inconvenient places). Utility companies face the challenge of managing the issue of the aging infrastructure. They are tasked with reducing the effects of aging equipment while also controlling the deterioration of the existing system as much as possible. This balance will be tenuous as transmission equipment continues to age and break down. These breakdowns will likely lead to more frequent utility disruptions as time goes by.

4.4.18.4. Range of Magnitude

The most severe utility interruptions will be regional or widespread power and telecommunications outages. With the loss of power, electrically powered equipment and systems will not be operational. Examples may include lighting; HVAC and ancillary support equipment; communication (i.e., public address systems, telephone, computer servers, and peripherals); ventilation systems; fire and security systems; refrigerators, sterilizers, trash compactors, office equipment; and medical equipment. This can cause food spoilage, loss of heat or air conditions, basement flooding (sump pump failure), lack of light, loss of water (well pump failure), lack of phone service, or lack of internet service. However, this is most often a short-term nuisance rather than a catastrophic hazard.

The severity of a utility interruption can be compounded with extreme weather events, especially winter weather events. Interruptions can also be more severe for special needs populations that are dependent on electronic medical equipment. Utility interruptions can significantly hamper first responders in their efforts to provide aid in a compound disaster situation, especially with losses of telecommunications and wireless capabilities. Telecommunications interruptions will also hinder first responders' efforts. Additionally, an internet outage could be crippling to the economy, as many companies and government entities process payments and invoices electronically rather than with cash or physical checks.

In a possible worst-case scenario for Jefferson County, a winter storm event could cause widespread power outages, leaving citizens without heat in the midst of subzero temperatures for several days. The power outage would also put elderly populations or others at risk of health problems due to the lack of heat and the inability to call for assistance or leave their homes. Power lines could also be difficult to repair depending on the magnitude of the storm. A power outage during the summer could also have serious consequences for much the same reason. During the summer the temperatures in Jefferson County can occasionally exceed 100°F, and with no air conditioning this can put elderly and other vulnerable populations in danger of dehydration, heat exhaustion, or heat stroke.

4.4.18.5. Vulnerability Assessment

All jurisdictions are vulnerable on some level to utility interruptions, but because this hazard often occurs in conjunction with other hazards, jurisdictions that have been identified as more vulnerable to winter storms, windstorms, tornado, flooding, and other natural hazard events may be more vulnerable to a utility interruption.

4.4.18.6. People

All of Jefferson County and its municipalities are exposed to utility failure. Residents might be displaced or require temporary to long-term sheltering due to interruptions to their daily lives as a result of utility failure. Loss of utilities to support access to heating, cooling, and potable water can result in increased health impacts. The population adversely affected by utility failure may also include those beyond the disaster area that rely on communication lines or water lines that run through the state.

According to the State of West Virginia 2023 Hazard Mitigation Plan, socially vulnerable populations may be impacted at a disproportionately higher rate than the rest of the population. Individuals that are socially vulnerable may have increased medical needs, which can be exacerbated due to overheating, heatstroke, or hyperthermia. Power failure leading to loss of heating and cooling in homes could exacerbate these health risks. Additionally, socially vulnerable individuals dependent upon electric-powered medical equipment could face severe impacts, including loss of life. Economically disadvantaged residents are at high risk for bracing intense cold and hot conditions because of the potential inability to afford backup generators, which may pose health issues, such as hypothermia or heat stroke (WV State HMP, 2023).

Figure 4-45: Transformer Fire in Jefferson County 7/15/23 (MetroNews, 2023)

4.4.18.7. Structures

Emergency medical facilities, including retirement homes and senior centers are particularly vulnerable to power outages. While back-up power generators are often used at these facilities, loss of electricity may result in hot or cold temperatures for which elderly populations are particularly vulnerable. Conservation and improved technology have resulted in more efficient use of energy sources. The increasing use of alternative fuel supplies, such as kerosene heaters, wood burning stoves, coal burners, etc., has also decreased our vulnerability to future shortages. However, severe weather extremes, accidents, labor strikes, terrorism, or nationwide shortages could cause significant energy shortage problems. Emergency management officials can reduce vulnerability to utility interruption through training and exercises, such as the "Dark Grid" exercise, which prepares emergency responders and community leaders for a coordinated response to widespread utility interruptions.

In addition, all critical facilities are vulnerable to utility interruptions, especially the loss of power. The establishment of reliable backup power at these facilities is extremely important to continue to provide for the health, safety, and well-being of Jefferson County and its citizens.

4.4.18.8. Systems

The region is also well known to have many areas with limited cellular and broadband access. Areas of concern are the rural portions of Jefferson County. The West Virginia Broadband Council provides Broadband Mapping Data and Resources (WV Broadband Enhancement Council, 2021). The West Virginia Broadband Enhancement Council was established in code during the 2017 Regular Legislative Session with the passage of House Bill 3093 and signed into law by Governor Jim Justice. The Code sets the many directives for the Council with the primary emphasis being on the development of broadband infrastructure in unserved and underserved areas of the State (WV Broadband Enhancement Council, 2021). Stakeholders and community members have noted concern about broadband and cellular interruption in receiving and sending emergency communications.

Since implementing an enhanced vegetation management program in 2014, Potomac Edison infrastructure has experienced significantly fewer tree-related outages in areas where tree trimming has been conducted to the new standards. The company services 1,550 miles of lines in its territory in the Eastern Panhandle. In 2020, the company saw a 45 percent reduction in tree-related outages compared to 2019, and the amount of time customers experienced service interruptions due to trees dropped by 75 percent. According to a PR Newswire article, to help minimize the impact of tree-related damages during severe weather, Mon Power, and Potomac Edison's tree contractors plan to clear vegetation along approximately 6,800 miles of power lines in 2023 to help enhance electric service reliability for West Virginia customers. They have already completed that work along more than 2,400 miles of power lines this spring (PRNewsWire, 2023). Actions like this can be taken by utility providers to reduce an area's utility interruption vulnerability.

4.4.18.9. Historic Resources & Community Activities

All of the building stock, including historic structures, are exposed to utility interruptions. Impacts sustained from these interruptions are likely to be secondary impacts. Should water distribution be reduced or not available, then structures could be at increased risk for structural fire since current fire suppression is dependent on accessing water supply from hydrants. Interruption of utility gas or water distribution could also reduce the effectiveness of facilities to operate at full capacity.

As previously mentioned, utility interruptions are secondary impacts. Therefore, community activities impacted by natural hazard events, there is a high possibility of utility interruption. While a slight disruption to events may occur as a result of utility interruptions in the region, long term disruptions or event cancelations are not anticipated from this hazard, based on past occurrences.

4.5. Hazard Vulnerability Summary

4.5.1. Methodology

Ranking hazards helps communities set goals and priorities for mitigation based on their vulnerabilities. A risk factor (RF) is a tool used to measure the degree of risk for identified hazards in a particular planning area. The RF can also assist local community officials in ranking and prioritizing hazards that pose the most significant threat to a planning area based on a variety of factors deemed important by the planning team and other stakeholders involved in the hazard mitigation planning process. The RF system relies mainly on historical data, local knowledge, general consensus from the planning team, and information collected through development of the hazard profiles included in Section 3. The RF approach produces numerical values that allow identified hazards to be ranked against one another; the higher the RF value, the greater the hazard risk.

RF values were obtained by assigning varying degrees of risk to five categories for each of the hazards profiled in the HMP update. Those categories include probability, impact, spatial extent, warning time, and duration. Each degree of risk was assigned a value ranging from one to four. The weighting factor agreed upon by the planning team is shown below. To calculate the RF value for a given hazard, the assigned risk value for each category was multiplied by the weighting factor. The sum of all five categories equals the final RF value, as demonstrated in the following example equation:

Risk Factor Value = [(Probability x .30) + (Impact x .30) +
(Spatial Extent x .20) + (Warning Time x .10) + (Duration x .10)]

Table 4-57 summarizes each of the five categories used for calculating a RF for each hazard. According to the weighting scheme applied, the highest possible RF value is 4.0.

Table 4-57: Summary of Risk Factor approach used to rank hazard risk				
Risk Assessment Category	**Degree of Risk**			**Weight Value**
	Level	**Criteria**	**Index**	
PROBABILITY *What is the likelihood of a hazard event occurring in a given year?*	**UNLIKELY**	LESS THAN 1% ANNUAL PROBABILITY	**1**	**30%**
	POSSIBLE	BETWEEN 1% & 49.9% ANNUAL PROBABILITY	**2**	
	LIKELY	BETWEEN 50% & 90% ANNUAL PROBABILITY	**3**	
	HIGHLY LIKELY	GREATER THAN 90% ANNUAL PROBABILTY	**4**	
IMPACT *In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs?*	**MINOR**	VERY FEW INJURIES, IF ANY. ONLY MINOR PROPERTY DAMAGE & MINIMAL DISRUPTION ON QUALITY OF LIFE. TEMPORARY SHUTDOWN OF CRITICAL FACILITIES.	**1**	**30%**
	LIMITED	MINOR INJURIES ONLY. MORE THAN 10% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR MORE THAN ONE DAY.	**2**	
	CRITICAL	MULTIPLE DEATHS/INJURIES POSSIBLE. MORE THAN 25% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR MORE THAN ONE WEEK.	**3**	
	CATASTROPHIC	HIGH NUMBER OF DEATHS/INJURIES POSSIBLE. MORE THAN 50% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR 30 DAYS OR MORE.	**4**	
SPATIAL EXTENT *How large of an area could be impacted by a hazard event? Are impacts localized or regional?*	**NEGLIGIBLE**	LESS THAN 1% OF AREA AFFECTED	**1**	**20%**
	SMALL	BETWEEN 1 & 10.9% OF AREA AFFECTED	**2**	
	MODERATE	BETWEEN 11 & 25% OF AREA AFFECTED	**3**	
	LARGE	GREATER THAN 25% OF AREA AFFECTED	**4**	

Table 4-57: Summary of Risk Factor approach used to rank hazard risk				
Risk Assessment Category	**Degree of Risk**			**Weight Value**
	Level	**Criteria**	**Index**	
WARNING TIME *Is there usually some lead time associated with the hazard event? Have warning measures been implemented?*	**MORE THAN 24 HRS**	SELF-DEFINED *(NOTE: Levels of warning time and criteria that define them may be adjusted based on hazard addressed.)*	**1**	**10%**
	12 TO 24 HRS	SELF-DEFINED	**2**	
	6 TO 12 HRS	SELF-DEFINED	**3**	
	LESS THAN 6 HRS	SELF-DEFINED	**4**	
DURATION *How long does the hazard event usually last?*	**LESS THAN 6 HRS**	SELF-DEFINED *(NOTE: Levels of warning time and criteria that define them may be adjusted based on hazard addressed.)*	**1**	**10%**
	LESS THAN 24 HRS	SELF-DEFINED	**2**	
	LESS THAN 1 WEEK	SELF-DEFINED	**3**	
	MORE THAN 1 WEEK	SELF-DEFINED	**4**	

4.5.2. Ranking Result

Table 4-57 lists the Risk Factor calculated for each of the 18 hazards identified in the 2023 plan. Hazards identified as high risk have risk factors of 2.5. or greater. Risk Factors ranging from 2.1 to 2.4 were deemed moderate risk hazards. Hazards with Risk Factors 2.0 and less are considered low risk. Based on the results, there are 3 high risk hazards, 9 moderate risk hazards and 6 low risk hazards in Jefferson County.

Table 4-58: Jefferson County Ranking of Hazard Types Based on Risk Factor Methodology							
Risk Class	Hazard	Risk Assessment Category (1 = least severe, 4 = most severe)					Calculated Risk Factor
		Probability	Severity	Spatial Extent	Warning Time	Duration	
High	Public Health Crisis	2.2	2.5	3.3	1.5	3.1	2.5
	Cyber Terrorism	2.1	2.5	2.5	4.0	3.1	2.6
	Utility Interruption	2.1	2.3	2.7	3.8	2.7	2.5
Moderate	Drought	2.1	2.0	2.9	1.1	3.5	2.3
	Extreme Temperatures	2.3	1.9	3.3	1.5	3.1	2.4
	Flood	2.4	2.3	2.2	2.3	2.7	2.3
	Severe Thunderstorm & Hail	2.7	1.8	2.7	2.9	1.2	2.3
	Severe Winter Storm	2.2	2.1	3.3	1.7	2.7	2.4
	Wild & Urban Fires	1.7	2.3	2.1	3.5	2.2	2.2
	Hazardous Materials	1.9	2.4	2.0	4.0	2.5	2.3
	Terrorism	1.4	2.6	1.9	4.0	2.3	2.2
Low	Earthquake	1.0	1.8	2.1	3.6	1.1	1.7
	Invasive Species	2.0	1.3	2.1	1.5	3.5	1.9
	Landslide & Subsidence	1.9	2.1	1.8	3.3	2.1	2.1
	Severe Wind and Tornado	1.9	2.0	2.5	2.7	1.1	2.0
	Dam Failure	1.4	1.9	1.7	3.3	2.1	1.9
	Civil Disturbance	1.7	1.9	1.7	3.5	1.4	1.9

4.5.3. Potential Loss Estimates

Potential loss estimates for hazard events help the County better understand monetary value of what might be at stake during a hazard event. Estimates are considered potential in that they generally represent losses that could occur in a countywide hazard scenario. In events that are localized, losses may be lower, while regional events could yield higher losses.

Potential loss estimates have four basic components, including:

- **Replacement Value:** Current cost of returning an asset to its pre-damaged condition, using present-day cost of labor and materials.
- **Content Loss:** Value of building's contents, typically measured as a percentage of the building replacement value.

- **Functional Loss:** The value of a building's use or function that would be lost if it were damaged or closed.
- **Displacement Cost**: The dollar amount required for relocation of the function (business or service) to another structure following a hazard event.

Loss estimates provided in this section fall into three broad categories: historical losses, current-condition losses, and predictive losses. Historical loss estimates come from three primary sources: the NCEI NOAA storm events database, the NFIP, and the USDA's Risk Management Agency annual crop indemnities dating from 1980-2021. Current condition losses come from geospatial analysis of the value of buildings identified as vulnerable. Finally, predictive losses were generated using HAZUS-MH. Historical losses do not consider any of the aforementioned components, but they do provide insight into what future losses might be. The current-condition losses consider replacement value as well as exposure value. Hazus modeling takes into account all four components and provides the most comprehensive description of potential losses. For more details on the Hazus methodology used and additional results reports, see Appendix E.

4.5.3.1. Historic Losses

Historical losses were able to be determined for drought, flooding, coastal storms (hurricanes/tropical storms/tropical depressions), tornadoes and windstorms, lightning, and winter storms from NCEI NOAA, USDA RMA, and the NFIP. While these historic losses give a glimpse of potential losses in hazard events, they are not reported for all events and should be considered a broad estimate. NCEI reports include property and crop damage estimates with their incident reports. As noted in many of the hazard profiles, though, many of the events have no damages reported. This does not mean that there were no damages; rather, it indicates that no damages were reported to NCEI.

Agriculture is a vital part of Jefferson County's economy, and agricultural production is highly vulnerable to natural hazard events. As previously mentioned, losses are available from the USDA Risk Management Agency (RMA). The RMA operates and manages the Federal Crop Insurance Corporation, which provides crop insurance to American farmers. While not all crops are insured through RMA, their records provide strong insight into agricultural losses nationwide and in Jefferson County. Table 4-59 illustrates the total amount of indemnities paid through RMA since 2010 in Jefferson County by type of crop failure. Only crop failures related to the hazards discussed in this plan are listed. There has been over $4.1 million in indemnity paid out due to crop losses between 2010 and 2023 in Jefferson County. The greatest amount of indemnity paid out was due to crop losses from drought, which accounts for about 60 percent of the losses, followed by losses due to Wildfire, which accounted for over 2 percent of the losses.

Table 4-59: Historic Insured Crop Losses, 2010-2023 (USDA RMA, 2023)	
Reason for Loss	**Indemnity Amount**
Cold Wet Weather	$11,339.00
Cold Winter	$1,408.00
Drought	$2,545,042.86
Excess Moisture/Precipitation/Rain	$434,919.20
Freeze	$39,028.50
Frost	$12,213.50
Hail	$42,215.46
Heat	$466,451.75
Insects	$97,772.00
Wildfire	$529,379.43
Other (Snow, Lightning, Etc.)	$8,943.00
Total	**$4,188,712.70**

The final set of historic losses relates solely to prior flood losses and comes from the NFIP's records of claims paid. Table 4-60 shows the total amount of claims paid in each municipality according to FEMA's Community Information System (CIS). There has been over $9.54 million paid to residents of Jefferson County.

Table 4-60: Jefferson County NFIP Policies and Claim Information				
Community	**Policies in Force**	**Total Coverage**	**Prior Claims**	**Total Amount of Paid Claims**
Jefferson County	26	$38,169	23	$207,392.56
Bolivar	0	$0	1	$7,409.13
Charles Town	43	$39,196	46	$648,055.71
Harpers Ferry	44	$59,710	42	$1,216,787.65
Ranson	19	$11,506	20	$54,045.1
Shepherdstown	36	$67,690	20	$238,575.5
Total	**168**	**$216,271.00**	**152**	**$2,372,265.65**

4.5.3.2. Current Condition Losses

The current condition losses were derived using the total assessed value, including land and building values, from the building inventory used in the Hazus analysis. Table 4-61 details the total assessed values by type of land. The 2022 West Virginia Statewide Risk Assessment estimates that approximately 734 buildings in Jefferson County are located within the 1% annual chance flood hazard area. The assessment estimates that the building dollar exposure to be approximately $118,388,409. The following tables summarize the HAZUS data.

Table 4-61: Building Dollar Exposure: Residential versus Non-Residential

Community	Residential		Commercial Non-Residential		Other Non-Residential		Total Building Value	
	#	Value ($)	#	Value ($)	#	Value ($)	#	Value ($)
Unincorporated	505	$60,022K	14	$4,889K	7	$5,349K	526	$70,260K
Bolivar	3	$251K	0	$0K	1	$4,000K	4	$4,251K
Charles Town	23	$2,073K	4	$7,893K	0	$0K	27	$9,966K
Harpers Ferry	6	$722K	25	$6,243K	0	$0K	31	$6,965K
Ranson	3	$251K	0	$0K	1	$4,000K	4	$4,251K
Shepherdstown	23	$2,073K	4	$7,893K	0	$0K	27	$9,966K
Total	**654**	**$76,146K**	**67**	**$27,999K**	**13**	**$14,243K**	**734**	**$118,388K**

Source: Region 9 Tabular Community-Level Report Link: data.wvgis.wvu.edu - /pub/RA/State/CL/Community_Asset/

4.5.3.3. Predicted Losses

This plan employed a Hazus analysis for floods. For details on the Hazus methodology used and additional results reports, see Appendix E. Within the online interface, the user can toggle on the Building Exposure Cost risk map, to determine high general occupancy class and building exposure cost of each mapped structure.

4.5.3.4. Future Development and Vulnerability

Population change is perhaps the most significant indicator of changes in vulnerability and risk in the future. A rise or decrease in population not only impacts the level of risk (as to how many individuals could be affected), but also foreshadows development and land use changes for the County and its municipalities. Jefferson County is expected to experience a variety of factors that will, in some areas, increase vulnerability to hazards while in other areas, vulnerability may be reduced. Jefferson County's population continues to grow primarily due to the county's proximity to the Washington D.C. Metro Area.

Many of the towns in the county are considered bedroom communities for the greater Washington, D.C. area.

Population change is perhaps the most significant indicator of changes in vulnerability in the future. As discussed in Section 1.3, the total population in the region is expected to increase. However, these changes are not equally distributed across Jefferson County either. Figure 2.4-1 demonstrates where Jefferson County anticipates and is encouraging future growth within the county. Development can often change the hazard threat level of an area by placing additional critical facilities, businesses, transportation networks, and populations within vulnerable areas. Any development along transportation routes can increase the vulnerability to transportation incidents and hazardous material spills. Most often, development occurs along these transportation networks because of access and increased demand for travel and access to services. Therefore, the impact of these hazards can increase along with their frequency. While it can be difficult to curb development, it is to the municipality's advantage to be aware of development trends in order to successfully mitigate future hazards as risks increase.

Population projections are useful in determining if a given area's population trends will continue. The State of West Virginia produces County population projections to aid county comprehensive planning. Projections developed for the region are shown in Table 4-62.

Roughly 17.3% percent of Jefferson County's population is over the age of 65. Older residents pose unique challenges when it comes to evacuation and/or mobility during the rescue and recovery processes that typically occur in the case of a hazard event. Officials may consider partnering with human services organizations to specifically plan for this vulnerable population.

Table 4-62: Population Projections to 2035 (State of West Virginia, 2015)

Data	Jefferson County
	Forecasted Population
2015	56,568
2020	59,552
2025	62,463
2030	65,144
2035	68,245

The rural nature of Jefferson County impacts vulnerability because remote and sparsely populated regions also face higher vulnerability to certain hazards because they may not have as easy access to care facilities or response personnel. For example, tele-communications services (high-speed internet cell phone, and 9-1-1), are sparse and non-existent in some parts of Jefferson County. These individuals may miss out on critical hazard information and warnings, as well as be unable to call for help. For instance, the less

populated municipalities face increased vulnerability to winter storms due to isolation, access issues, and longer emergency response times.

Jefferson County also has a Subdivision and Land Development Ordinance, and zoning ordinances for different areas. The Subdivision and land development ordinances (SALDOs) are intended to regulate the development of housing, commercial, industrial or other uses, including associated public infrastructure, as land is subdivided into buildable lots for sale or future development. Within these ordinances, guidelines on how land will be divided, the placement and size of roads and the location of infrastructure can reduce exposure of development to hazard events. Zoning ordinances allow for local communities to regulate the use of land in order to protect the interests and safety of the general public. Zoning ordinances can address unique conditions or concerns within a given community. They may be used to create buffers between structures and high-risk areas, limit the type or density of development and/or require land development to consider specific hazard vulnerabilities. These ordinances are detailed in the Capability Assessment Section (4.2).

In 2018 the Hagerstown/Eastern Panhandle Metropolitan Planning Organization (HEPMPO) completed a Long-Range Transportation Plan Update (LRTP). The current LRTP was adopted April 11, 2018 (HEMPO, 2018). The integration of both plans will influence future development in the region and its concentrated plan for growth. Concentrating growth may help to reduce isolation-based vulnerability of communities with few access routes, no municipal water supply, and low cell phone reception. On the other hand, higher densities mean that more people are likely to be impacted in a hazard event should it strike those more populated areas.

Jefferson County also has stormwater management ordinance that focuses on encouraging best management practices that help enforce environmentally sensitive development and encourage development that will limit runoff. Encouraging better development practices in relation to stormwater management could help make communities less vulnerable to the impacts of flooding. Through administration of floodplain ordinances, municipalities can ensure that all new construction or substantial improvements to existing structures located in the floodplain are flood-proofed, dry-proofed, or built above anticipated flood elevations. Floodplain ordinances may also prohibit development in certain areas altogether. The National Flood Insurance Program (NFIP) establishes minimum ordinance requirements which must be met in order for that community to participate in the program. However, a community is permitted and encouraged to adopt standards which exceed NFIP requirements.

There is one significant development change in the region that has occurred in the last five years and is expected to continue – construction of warehouses and industrial parks. This development is expected to be one of the most influential variables in the region's future vulnerability and risk.

The expansion of industrial parks can have cumulative and longer-lasting environmental impacts, some of which aren't fully known. As discussed in Section 2.4, this development is converting large amounts of land to impervious surface within the past five years. This significant amount of development affects

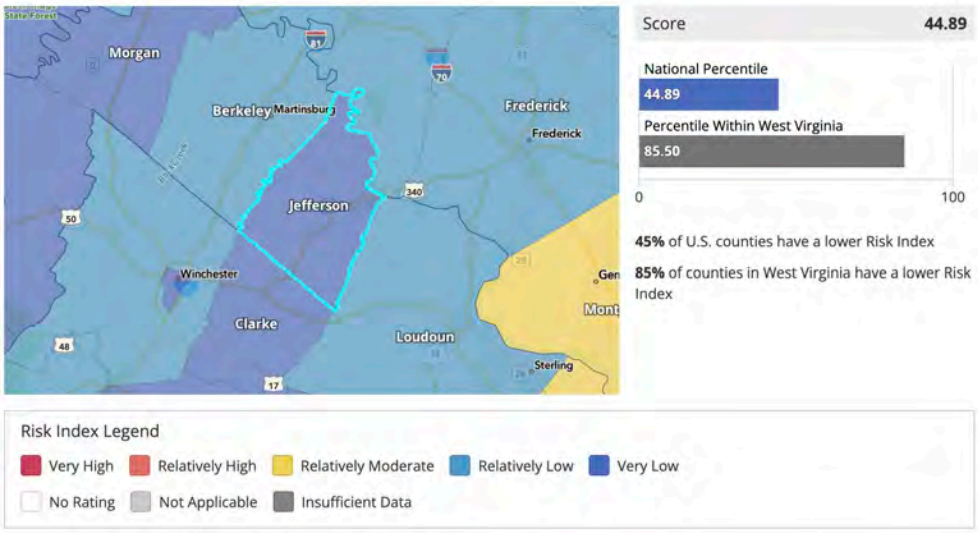
flooding, transportation, hazardous waste spills, as well as water supply, and other environmental concerns.

When planning for future development, there are several measures the region could take to help mitigate the impacts of industrial parks on transportation infrastructure and impervious surfaces. If continued investment and development in the warehousing industry is inevitable, then how the counties regulate new park locations and the industry as whole will become important in shaping Jefferson County's future vulnerabilities and risk, greater care and oversight could be taken to balance future warehouse development with watershed needs and conservation goals.

4.5.3.5. National Hazard Risk Perspective (NRI)

Information has been integrated into this plan update from FEMA's recently updated National Risk Index. The National Risk Index (NRI) is a dataset and online tool to help illustrate the United States communities most at risk for 18 natural hazards. The Risk Index leverages available source data for natural hazard and community risk factors to develop a baseline risk measurement for each United States county and Census tract. Using data and analysis from FEMA's National Risk Index, Jefferson County's risk index is very low compared to other counties in the United States.

Figure 4-1: National Perspective



According to the National Risk Index report for Jefferson County, hazard type risk ratings are calculated using data for only a single hazard type, and reflect a community's expected annual loss value, community risk factors, and the adjustment factor used to calculate the risk value. The report states that low risk is driven by lower loss due to natural hazards, lower social vulnerability, and higher community resilience.

Expected annual loss for hazard type ratings for Jefferson County compared to the rest of the United

States are shown in Figure 4-2. The National Risk Index provides risk ratings for 18 natural hazards, however 14 of 18 hazard types contribute to the expected annual loss for Jefferson County, WV.

In addition, the National Risk Index provides perspective on both community resilience and social vulnerability. According to the report, communities in Jefferson County have a Relatively Moderate ability to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions when compared to the rest of the U.S; Figure 4-3. Also, social groups in the county have a Very Low susceptibility to the adverse impacts of natural hazards when compared to the rest of the U.S; Figure 4-4.

Figure 4-2: Expected annual loss for hazard type ratings for Jefferson County

Hazard Type	Expected Annual Loss Rating
Hurricane	Relatively Low
Strong Wind	Relatively High
Tornado	Relatively Low
Riverine Flooding	Relatively Low
Lightning	Relatively Moderate
Heat Wave	Relatively Low
Earthquake	Very Low
Drought	Relatively Low
Cold Wave	Relatively Low
Winter Weather	Relatively Low
Wildfire	Very Low
Landslide	Relatively Low
Ice Storm	Relatively Low
Hail	Very Low
Avalanche	Not Applicable
Coastal Flooding	Not Applicable
Tsunami	Not Applicable
Volcanic Activity	Not Applicable

Figure 4-3: Ability to Prepare for Anticipated Natural Hazards

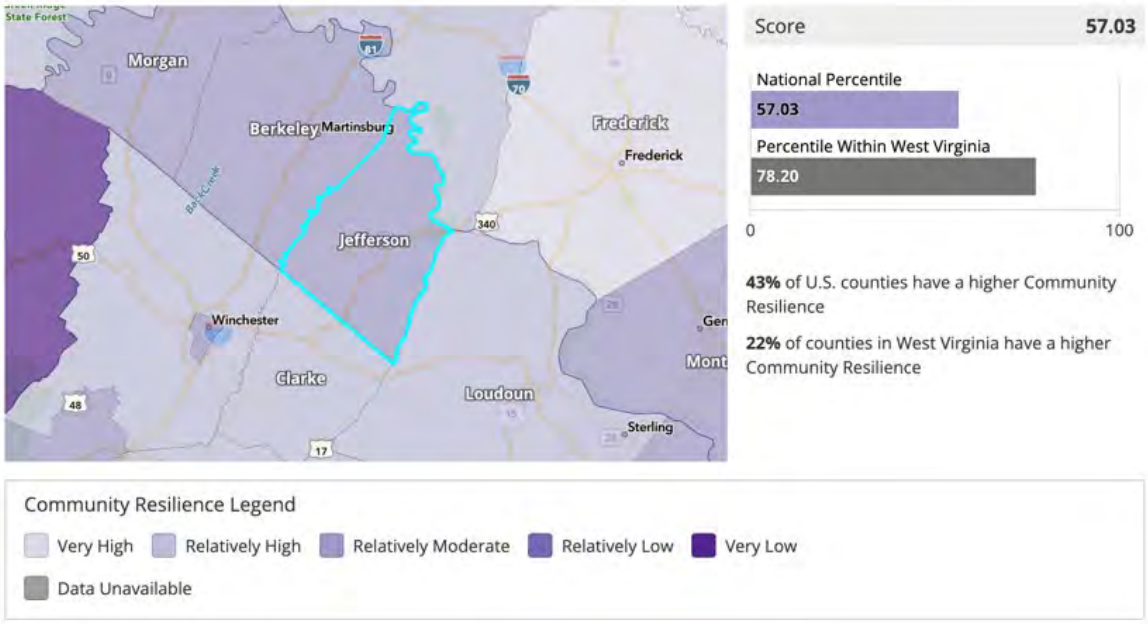
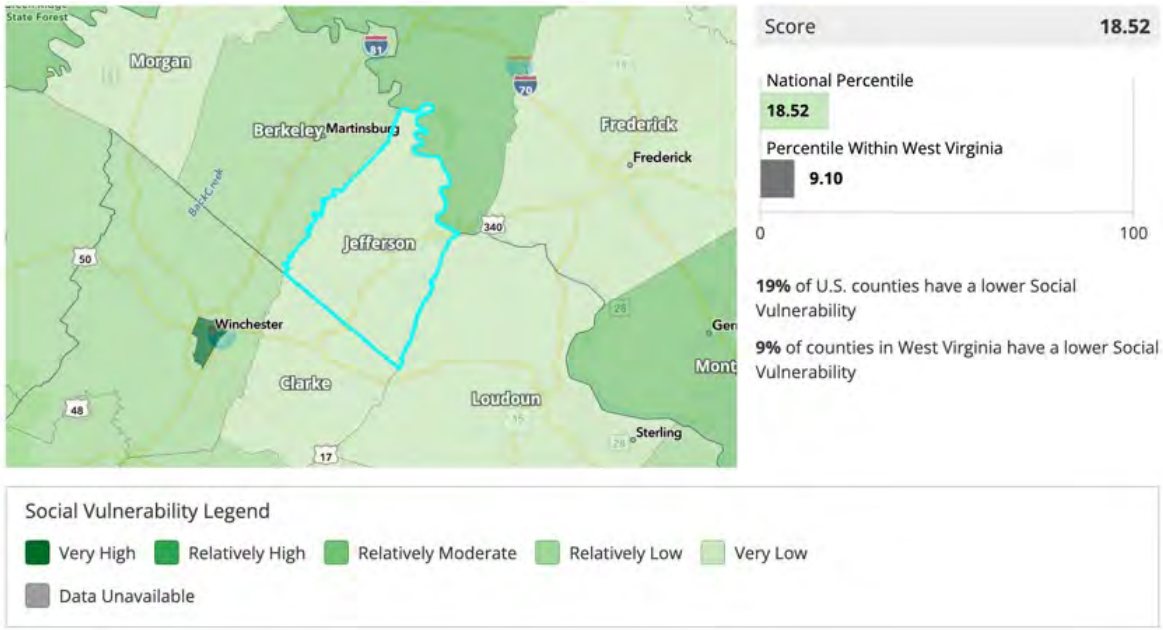


Figure 4-4: Susceptibility to the Adverse Impacts of Natural Hazards



5. Capability Assessment

5.1. Update Process Summary

The purpose of the Capability Assessment is to identify strengths and weaknesses that will affect the ability of the County and participating jurisdictions to implement mitigation actions. It is important to perform a mitigation capability assessment in order to develop a comprehensive and implementable mitigation strategy. Capabilities include a variety of regulations, existing planning mechanisms, and administrative capabilities provided through established agencies or authorities.

The Capability Assessment comprises a number of main components:

1. Document Review - an inventory of the County's existing planning and regulatory tools and a review and incorporation of existing plans and other technical information as appropriate;
2. Participation in the National Flood Insurance Program; and
3. Municipal Capability Assessment - an analysis of municipal capacity from a planning, policy, staffing, training, outreach, and political standpoint.

Based on these components as well as the vulnerability analysis identified earlier in the plan, Jefferson County can assess their current resources and begin to address the legal, regulatory, administrative, financial, and other capabilities which it currently has at its disposal to address the potential hazards which make the County and its local municipalities vulnerable.

Through the planning process, this HMP has attempted to identify the presence of local plans, ordinances, and codes in each municipality and specify local, state, and federal resources available for mitigation efforts. This update hopes to provide an inventory of the most critical local planning tools available within Jefferson County and municipality and a summary of the fiscal and technical capabilities available through programs and organizations outside of the region. It also identifies emergency management capabilities and the processes used for implementation of the NFIP.

The Capability Assessment Survey was provided in both hard copy (at meetings) and electronic format (via e-mail and the project website) to each municipality. The capability assessment is a tool used to identify local capabilities and to recognize gaps and weaknesses that can be addressed through future mitigation actions. The results of the capability assessment provide useful information for developing an effective mitigation strategy.

Additionally, a number of documents have been reviewed as part of this Plan Update. While some reviews have been derived from the 2018 Plan and updated where applicable, additional documents have been identified and reviewed for purposes of integration into other local planning mechanisms. Several plans and ordinances at the County and municipal levels have been reviewed and a summary with options to

integrate the data, information, and hazard mitigation goals and actions into other planning mechanisms are included.

The Mitigation Strategy, including the goals and actions, is incorporated into relevant planning mechanisms based on their pertinence and relevance to specific plans and ordinances. For example, all structural projects should be included in the Capital Improvements Program. Land use and zoning related projects should be incorporated into the next update of the Community's Comprehensive Plan and Zoning Ordinance through collaboration with the Planning and Zoning departments. Likewise, information from relevant planning documents was used to inform and update the Hazard Mitigation Plan.

5.2. Capability Assessment

A capability assessment involves an evaluation of Jefferson County's governmental structure, political framework, legal jurisdiction, fiscal status, policies and programs, regulations and ordinances and resource availability. These factors are evaluated with respect to their strengths and weaknesses in preparing for, responding to, and mitigating the effects of the profiled natural hazards. By doing so, reasonable conclusions can be drawn regarding the relative appropriateness of various hazard mitigation action items that may be identified as part of the hazard mitigation strategy. As such, the capability assessment plays an important role in the hazard mitigation planning process.

No capability assessment would be complete without considering the constituent municipalities either. Local municipalities have their own governing body, enforce their own rules and regulations, purchase their own equipment, maintain their own infrastructure, and manage their own resources. In many ways, the County is only as good as the capabilities of its constituent municipalities. As such, this capability assessment does not consider either county as a lone entity but evaluates it in light of the various characteristics and differences of and between their constituent municipalities.

5.3. Planning and Regulatory Capability

One of the most difficult capabilities to evaluate involves the political will of a jurisdiction to enact meaningful policies and projects designed to mitigate hazard events. Some constituents in a community may view the adoption of hazard mitigation measures as an impediment to growth and economic development. In many cases, mitigation may not generate interest among local officials when compared with competing priorities such as pre planned capital improvement projects. Therefore, local mitigation staff must consider the local political climate when designing mitigation strategies, as it could be the most difficult hurdle to overcome in accomplishing the adoption or implementation of specific actions.

There are numerous existing regulatory and planning mechanisms in place at the state, County, regional, and municipal level of government which support hazard mitigation planning efforts. These tools include the West Virginia Statewide Standard All-Hazard Mitigation Plan, floodplain and stormwater management ordinances, source water protection plans, the Jefferson County Comprehensive Plan, building codes,

Emergency Operation Plan, zoning ordinances and subdivision and land development ordinances. Information from several of these documents has been incorporated into this plan and mitigation actions have been developed to further integrate these planning mechanisms into the hazard mitigation planning process. These planning mechanisms are tools that can be used to implement adopted mitigation strategies. The subsections below provide details about how these tools are implemented in Jefferson County, followed by a comprehensive look at which municipalities have adopted these tools.

5.3.1. State of West Virginia Document Review

The 2018 Update of the West Virginia Statewide Standard Hazard Mitigation Plan goals and objectives that are applicable to this Multi-Jurisdictional Plan update include:

- Identify and implement projects that will reduce or eliminate long-term risk, directly reduce impacts from hazards, and maintain critical societal functions. This includes reducing flood risk to repetitive loss and severe repetitive loss properties.
- Incorporate mitigation concepts and objectives into existing and future policies, plans, regulations, and laws in the State.
- Promote and support a whole community approach to awareness of hazards, their risk, and potential mitigation actions to increase resiliency.

Hazard identification and risk assessment data for Jefferson County has been incorporated into the appropriate sections of this Plan update from the 2018 WV Statewide Standard Hazard Mitigation Plan.

The West Virginia State Building Code (WVSBC) is a statewide building code that took effect in West Virginia in 1990. Local governments are not required to enforce the WVSBC. However, no other code provisions pertaining to building construction, repair, or maintenance may be enforced in West Virginia. The code:

- Provides uniformity and compliance with minimum standards of building construction and property maintenance;
- Helps ensure the construction of safe buildings, protecting lives and personal property;
- Utilizes proven industry standards, including new technologies and commonly accepted construction practices and materials.

The West Virginia Statewide Flood Protection Plan (2005) was developed with both short and long-term goals, strategies, and implementation schedules for flood management. Specific goals include:

- Reduce the unnecessary loss of lives due to flooding;
- Reduce private and public property damage;
- Develop technical and legislative tools that will reduce excessive runoff from land conversion activities;

- Promote technical and legislative tools that will reduce excessive runoff from land conversion activities;
- Reduce personal and economic loss due to flooding while supporting state economic growth; and
- Protect the state's waterways and floodplain environments.

5.3.2. Regional/County Document Review

5.3.2.1. Comprehensive Plans

A comprehensive plan is a policy document that states objectives and guides the future growth and physical development of a municipality. The comprehensive plan is a blueprint for housing, transportation, community facilities, utilities, and land use. It examines how the past led to the present and charts the community's future path. Chapter 8A of the West Virginia Code establishes the scope and requirements of community comprehensive plans. A comprehensive plan is required if a governing body wants to enact a zoning ordinance, enact a subdivision and land development ordinance, require plans and plats for land development, or issue improvement location permits for construction.

With regard to hazard mitigation planning, Section §8A-3-4 of the West Virginia Code requires comprehensive plans to include a plan for future land use, which, among other provisions, suggests that the Plan give consideration to flood-prone and subsidence areas during development. The code also requires comprehensive plans to include a plan for community facilities and services and recommends considering storm drainage and floodplain management.

Existing Comprehensive Plans that were reviewed and included in this Update are the Jefferson County Comprehensive Plan (2022), Bolivar Comprehensive Plan (2014), Charles Town Comprehensive Plan (2018), Harpers Ferry Comprehensive Plan (2013, under review – expected 1/2024), Ranson Comprehensive Plan (2012), and Shepherdstown Comprehensive Plan (2015).

These plans serve as the official policy guide for influencing the location, type, and extent of future development by establishing the basis for decision-making and review processes on zoning matters, subdivision and land development, land uses, public facilities, natural resource protection, cultural resources, and housing needs over time.

5.3.2.2. Zoning Ordinances

Zoning ordinances allow for local communities to regulate the use of land in order to protect the interested and safety of the general public. Zoning ordinances can be designed to address unique conditions or concerns within a given community. They may be used to create buffers between structures and high-risk areas, limit the type or density of development, and/or require land development to

consider specific hazard vulnerabilities. Zoning ordinances contain both a map that delineates zoning districts and text documenting the regulations that apply in each zoning district.

The Jefferson County Planning Commission administers Salvage Yard Ordinance (1984), the Stormwater Management Ordinance (2013, Amended 2020), the Improvement Location Permit Ordinance (1975), the Zoning and Land Development Ordinance (2022), and the Subdivision and Land Development Regulations (2018).

Charles Town, Ranson, Bolivar, Harpers Ferry, and Shepherdstown have all adopted their own zoning ordinances.

5.3.2.3. Building Codes

Building codes are important in mitigation, because codes are developed for regions of the Country in consideration of the hazards present within that region. Consequently, structures that are built to applicable codes are inherently resistant to many hazards such as strong winds, floods, and earthquakes, and can help mitigate regional hazards like wildfires. In 1990, West Virginia Adopted the WV State Building Code. The code is not required for adoption, but protects the public health and promotes the safety, protection, and sanitation of new and existing buildings and structures. It also protects financial investments and property values; if construction does not comply with current recommended codes the structure may be at greater risk for damage and loss.

Jefferson County's Building Code Enforcement Ordinance requires that all structures within the County comply with the most recent version of the International Residential Code (IRC), or the International Building Code (IBC) adopted by the State of West Virginia. Permits are required for commercial, residential, and industrial structures, renovations, sheds, and swimming pools among other buildings or structures.

5.3.2.4. Floodplain Ordinances

Through administration of floodplain ordinances, municipalities can ensure that all new construction or substantial improvements to existing structures located in the floodplain are flood-proofed, dry-proofed, or built above anticipated flood elevations. Floodplain ordinances may also prohibit development in certain areas altogether. The NFIP establishes minimum ordinance requirements which must be met in order for that community to participate in the program. However, a community is permitted and in fact, encouraged, to adopt standards which exceed NFIP requirements.

The Jefferson County Floodplain Ordinance was signed into effect in November 2009, which is administered by the Floodplain Administrator. The Floodplain Administrator, also referred to as the Floodplain Manager, is either the Chief County Engineer or his/her designated agent/employee. The

ordinance requires permits for any construction within the Floodplain Area and sets standards for it. For permits to be approved, they must conform with local, state, and federal regulations.

Charles Town, Ranson, and Shepherdstown have all established local floodplain ordinances and have the responsibility to enforce and administer them. Harpers Ferry Floodplain Ordinance is found in Part 17 of its Building, Land Use and Subdivision Code. The Town of Bolivar has not adopted a Floodplain Ordinance. The City of Charles Town is responsible for administering local, state, and federal floodplain regulations. The Ranson Floodplain Ordinance designates the city manager or his designee as the floodplain administrator, responsible for the administration and implementation of the ordinance. The floodplain administrator is also responsible for the review and approval of floodplain development permits.

The Harpers Ferry Floodplain Ordinance tasks the Floodplain Administrator to review applications for any projects within the Floodplain Area and must only approve applications that have been granted a Floodplain Certificate of Compliance.

The Shepherdstown Floodplain Ordinance requires that the municipality administers an ordinance in order to meet the requirements for the NFIP.

The WV Flood Tool is the primary source for updated data and modeling for all jurisdictions. The Advisory Flood Heights available in the expert layer on this tool are used to provide information to property owners regarding best practices for existing structures, new building permits and new subdivisions.

5.3.2.5. Subdivision and Land Development Ordinances

West Virginia Code Section §8A-4 outlines guidance for creation and enactment of subdivision and land development ordinances (SALDOs). Relating to hazard mitigation, the Code states SALDOs must include standards for flood-prone and subsidence areas and standards for setback requirements, lot sizes, streets, sidewalks, walkways, parking, easements, rights-of-way, drainage, utilities, infrastructure, curbs, gutters, streetlights, fire hydrants, storm water management and water and wastewater facilities.

Subdivision and land development ordinances (SALDOs) are intended to regulate the development of housing, commercial, industrial, or other uses, including associated public infrastructure, as land is subdivided into buildable lots for sale or future development. Within these ordinances, guidelines on how land will be divided, the placement and size of roads and the location of infrastructure can reduce exposure of development to hazard events.

Jefferson County, Charles Town, and Ranson have each adopted subdivision ordinances. The Jefferson County Subdivision and Land Ordinance includes requirements to protect waterways, minimize erosion and the deterioration of floodplains, hillsides, wetlands, sinkholes, and regulate the water supply and sanitary waste disposal. The Charles Town Subdivision and Land Ordinance sets standards to minimize

erosion and protect streams, sinkholes, springs, floodplains, steep slopes, and karst features. Ranson is currently revising its zoning and subdivision ordinances. Charles Town has also adopted the Charles Town Subdivision and Land Development Ordinance. Harpers Ferry has subdivision and land development regulations that are currently under review.

5.3.2.6. Emergency Management

An Emergency Operations Plan (EOP) is a document upon which the disaster operations of a County are formulated. It is concerned with all types of emergency situations and how they may develop, be prevented, and resolved. Consequently, these plans also account for activities before, during and after emergency operations. Jefferson County has an EOP in place.

The Jefferson County EOP outlines certain emergency powers given to the County Commission, which includes issuing a state of emergency declaration. The EOP also identifies Prevention and Mitigation as the first two steps in emergency management. They are followed in order by Preparedness, Response, and Recovery.

Another part of the EOP includes emergency public information methods, which ranges from spreading written materials through civic groups to using a mass emergency notification system or social media. Services providers and local agencies can also help in disseminating important information to the public or to specific groups.

5.3.2.7. Drinking Water

Public water suppliers are required by the State of West Virginia to develop Source Water Protection Plans in order to identify possible sources of contamination and develop mitigation measures.

West Virginia American Water has two Source Water Protection Plans (SWPP): one for the Walnut Grove Water Treatment Plant (published December 30, 2015, and revised June 20, 2019), and one for the Deerfield Village Water System (published May 24, 2016). Both Source Water Protection Plans provide guidance for the Tier reporting system, which is a five-tiered emergency system that notifies the public on the safety levels of drinking water based on the acronym “ABCDE.” Additionally, the WV Bureau for Public Health conducted Source Water Assessments for both treatment plants to identify potential sources of contamination as required by the Safe Drinking Water Act.

As of July 2023, neither SWPP in Jefferson County has detailed, specific drought contingency measures.

5.3.2.8. Stormwater Management

The proper management of stormwater runoff can improve conditions and decrease the chance of flooding. Proper stormwater management planning results in sound engineering standards and criteria being incorporated into local codes and ordinances to manage stormwater runoff from new development in a coordinated, watershed-wide approach. Without such planning, stormwater is either not controlled by municipal or County ordinances or is addressed on a site-to-site or municipal boundary basis. Municipalities within the same watershed may require different levels of control of stormwater. The result is often the total disregard of downstream impacts or the compounding of existing flooding problems. Stormwater management plans are adopted in order to mitigate potential negative impacts from future land uses, improve the condition of impaired waterways, and address flooding associated with stormwater runoff.

Jefferson County administers the Stormwater Management Ordinance, which controls the discharge of pollutants into the municipality's stormwater system, including lakes, rivers, streams, ponds, wetlands, and groundwater. This ordinance allows the County to comply with the National Pollutant Discharge Elimination System administered by the West Virginia Department of Environmental Protection. The Stormwater Management Ordinance provides provisions that include, but are not limited to, establishing setback requirements, adopting a system of fees for services and permits, establishing standards for stormwater contaminants, reviewing plans, and issuing permits.

5.3.2.9. Other Plans

Numerous other plans and policies are also in place at the municipal and County level for topics such as economic development, snow removal, and parks and recreation. These types of plans can be implemented, amended, or repurposed to target hazard mitigation as well.

Table 5-1 is an overview of local plans and regulations including updates collected during the 2023 HMP process.

Table 5-1: Summary of Major Plans and Regulations in Jefferson County

Community	Comprehensive Land Use Plan	Floodplain Regulations	Subdivision Regulations	Zoning Regulations	Stormwater Management Plan and/or Ordinance	Building Codes
Jefferson County	✓	✓	✓	✓	✓	✓
Charles Town	✓	✓	✓	✓	-	✓
Ranson	✓	✓	✓	✓	✓	✓
Bolivar	✓	-	-	✓	✓	✓
Harpers Ferry	✓	✓	✓	✓	✓	✓
Shepherdstown	✓	✓	-	✓	✓	✓

5.3.2.10. Participation in the National Flood Insurance Program (NFIP)

Jefferson County and all local jurisdictions participate in the NFIP. Community participation in the NFIP allows for property owners to obtain flood insurance. Flood insurance provides a means for homeowners, renters, and business owners to financially protect themselves. This capability greatly improves resilience after a flood hazard event by allowing residents to repair and rebuild. Table 5-2 provides details about the participation of Jefferson County and their municipalities in the NFIP and the number of flood insurance policies and coverage that exist.

Table 5-2: Jefferson County NFIP Claims Information (FEMA CIS, 2023)

Community Number	Community	Prior Claims	Total Amount of Paid Claims	Effective FIRM
540066	Charles Town	46	$648,055.71	12/18/2009
540068	Ranson	20	$54,045.1	
540030	Bolivar	1	$7,409.13	
540067	Harpers Ferry	42	$1,216,787.65	
540069	Shepherdstown	20	$238,575.5	
	Total	129	$2,164,873.09	

For a community to participate in the NFIP, it must adopt and enforce floodplain management regulations that meet or exceed the minimum NFIP standards and requirements. These standards are intended to prevent loss of life and property, as well as economic and social hardships that result from flooding. Once FEMA provides communities with flood hazard information upon which floodplain management regulations are based, the community is required to adopt a floodplain ordinance that meets or exceeds the minimum NFIP requirements. Jefferson County administers the floodplain ordinance for both the unincorporated areas of the county and the Town of Harpers Ferry (West Virginia Code | §7-1-3V (wvlegislature.gov). Note, Harpers Ferry includes 6 structures within the regulated floodplain. The Jefferson County Floodplain Ordinance is available at: Flood Plain Ordinance. The Towns of Charles Town, Bolivar, Shepherdstown, and City of Ranson each administers their own floodplain ordinance are available at the Town/City Hall.

In terms of the substantial improvement/substantial damage provisions, all new or substantially improved structures shall have the lowest floor elevated to or above the flood protection elevation. The Jefferson County Flood Protection Elevation is the base flood elevation (BFE) plus three (3) feet of freeboard. Two (2) new mitigation action items, LPR #10 and #22 were included for Jefferson County and all municipalities.

As part of this plan update, community worksheets from the FEMA Region 3 Mitigation Plan Guidance: Checking In on the NFIP were completed. Questions and answers specific to floodplain mapping, floodplain management, and flood insurance are provided in Appendix G.

The NFIP's Community Rating System (CRS) provides discounts on flood insurance premiums in those communities that establish floodplain management programs that go beyond NFIP minimum requirements. Under the CRS, communities receive credit for more restrictive regulations; acquisition; relocation, or flood-proofing of flood-prone buildings, preservation of open space; and other measures that reduce flood damage or protect the natural resources and functions of floodplains.

The CRS was implemented in 1990 to recognize and encourage community floodplain management activities that exceed the minimum NFIP standards. Section 541 of the 1994 Act amends Section 1315 of the 1968 Act to codify the CRS in the NFIP and expands the CRS goals to specifically include incentives to reduce the risk of flood-related erosion and to encourage measures that protect natural and beneficial floodplain functions. These goals have been incorporated into the CRS, and communities now receive credit toward premium reductions for activities that contribute to them.

Under the CRS, flood insurance premium rates are adjusted to reflect the reduced flood risk resulting from community activities that meet a minimum of three of the following CRS goals:

- Reduce flood losses
- Reduce damage to property
- Protect public health and safety
- Prevent increases in flood damage from new construction
- Reduce the risk of erosion damage
- Protect natural and beneficial floodplain functions
- Facilitate accurate insurance rating
- Promote the awareness of flood insurance

There are 10 CRS classes that provide varied reduction in insurance premiums for property owners in both the SFHA and non-SFHA. Class 1 requires the most credit points and gives the largest premium reduction; Class 10 receives no premium reduction. CRS premium discounts on flood insurance range from 5 percent for Class 9 communities up to 45 percent for Class 1 communities. The CRS recognizes 19 creditable activities that are organized under four categories: Public Information, Mapping and Regulations, Flood Damage Reduction, and Flood Preparedness. Management and coordination of the Jefferson County program occurs at the County level Jefferson County. Jefferson County entered the CRS program on October 1, 2006 and as of April 1, 2023 is a Class 7.

Greater municipal action could allow flood mitigation efforts to better address specific local flooding issues. Hedgesville does not participate in the program because the entire community is within a single low risk flood zone, Zone X. This leaves Hedgesville residents without the ability to purchase flood

insurance through the NFIP and with fewer flood mitigation resources. Additionally, older Jefferson County may be less likely to have flood insurance, as many tend to drop their NFIP coverage once they have paid off their mortgage.

5.4. Administrative and Technical Capability

Administrative capability is described by an adequacy of departmental and personnel resources for the implementation of mitigation-related activities. Technical capability relates to an adequacy of knowledge and technical expertise of local government employees or the ability to contract outside resources for this expertise in order to effectively execute mitigation activities. Common examples of skill sets and technical personnel needed for hazard mitigation include: planners with knowledge of land development/ management practices, engineers or professionals trained in construction practices related to buildings and/or infrastructure (e.g. building inspectors), planners or engineers with an understanding of natural and/or human caused hazards, emergency managers, floodplain managers, land surveyors, scientists familiar with hazards in the community, staff with the education or expertise to assess community vulnerability to hazards, personnel skilled in geographic information systems, resource development staff or grant writers, and fiscal staff to handle complex grant application processes.

It should be noted municipalities in Jefferson County tend to have limited administrative and technical staff needed to conduct hazard mitigation-activities. However, each municipality carries out its own daily operations and provides various community services according to their local needs and limitations. Administrative capabilities in Jefferson County include:

Jefferson County Development Authority help to plan, implement & coordinate development activities in a structured way. The mission of the Authority is to attract and retain business and industry in order to facilitate job creation and capital investment in Jefferson County. The Authority provides assistance that includes but is by no means limited to: The development of sites and available building stock; the strengthening and alignment of the workforce talent pipeline; the identification and procurement of funding resources; and the provision of any other services as needed to help businesses thrive here in Jefferson County.

Engineers perform duties as directed in the areas of construction, reconstruction, maintenance, and repair of streets, roads, pavements, sanitary sewers, bridges, culverts, and other engineering work. The municipal engineer reviews and/or prepares plans, specifications, and estimates of the work undertaken within the jurisdiction. The Jefferson County Office of Engineering is responsible for the engineering review of subdivision plans and commercial/industrial site plans for compliance with the Subdivision Ordinance, Floodplain Ordinance and the Improvement Location Permit Ordinance. The Office of Engineering administers the land development bonding policy and performs inspections of land development projects. In addition, the Office of Engineering Department is responsible for the administration of the Property Safety Ordinance. The Office of Engineering is also responsible for

managing engineering studies such as the: Mountain Community Water System Study, Westridge Hills Subdivision Test Wells Project, County-wide Groundwater Budget Study; and managing construction projects and drafting ordinances.

Floodplain Administrators (FPAs) are experts in the rules and regulations of development in a floodplain and can provide vast amounts of information on the risks and impacts of building within those hazard areas. They are an integral part of the mitigation planning team and can make recommendations based on the needs and conditions of the community. The Jefferson County Office of Engineering administers the Floodplain Ordinance which requires that any structures and/or the subdivision of land located in the flood hazard areas of Jefferson County comply with the regulations. The floodplain manager provides floodplain delineation determinations and base flood elevation determinations, reviews Letter of Map Amendment (LOMA) and Letter of Map Revision (LOMR) submissions and maintains the floodplain maps for Jefferson County. All municipalities participate in the NFIP and have a designated FPA. In some municipalities floodplain management duties are a component of a current job rather than a separate position. For Jefferson County, it is not out of the ordinary for a municipal official to hold more than one title. Those municipalities that noted having a Floodplain Administrator often listed their planning department or City Engineer as responsible.

Jefferson County Office of Homeland Security and Emergency Management coordinates Countywide emergency management efforts. They are responsible for managing activities that aim to reduce the loss and lives and property and protect the environment from the effects of natural or man-made disasters, catastrophes, or terrorist threats through prevention, mitigation, preparedness, response and recovery efforts. The OEM also contains a **Local Emergency Planning Committee (LEPC),** which is a County level planning committee that is responsible for the development and distribution of the chemical emergency preparedness and response plan, to provide training and assist emergency responders, other agencies and organizations with their training programs, for development of a public education program, and to develop and implement a compliance and enforcement program for the district.

The Jefferson County GIS Office performs mapping and spatial database maintenance work for various County departments including, E-911 Communications, Office of Emergency Services, Planning and Addressing. They are responsible for updating the Jefferson County portion of the State of WV Mapping and Addressing Website with all current feature class data as required by State Code.

Jefferson County Planning Commission act as advisory groups to the municipal governing body on issues and policies related to planning, land use regulation, and community development, and other duties as outlined in the West Virginia Code Chapter 8A Article 2.

Ordinance within its boundaries:

- The **City of Ranson Planning Division** is responsible for implementing the Ranson Zoning and Subdivision Ordinances, issuing use permits, handling rezoning and annexation permits, administering federal, state, and local floodplain and stormwater regulations. The Planning Division also develops and maintains the Comprehensive Plan and Land Development Plans and Plats.
- The **City of Charles Town** is responsible for administering the provisions of the Comprehensive Plan, the Zoning Ordinance, and the Subdivision and Land Development
- The **Town of Bolivar** primarily serves as an advisory body with some regulatory capabilities over development and land planning. The town is responsible for developing the Comprehensive Plan and administering zoning regulations.
- The **Corporation of Harpers Ferry** is responsible for carrying out the provisions of the Zoning Ordinance, Stormwater Management Ordinance, the Floodplain Ordinance, and the Building, Land Use and Subdivision Code within its boundaries. It is also responsible of handling rezoning and developing the Comprehensive Plan.
- The Corporation of **Shepherdstown Planning and Zoning Department** is responsible for carrying out the provisions of the Planning and Zoning Ordinance. The Corporation is also responsible for handling the Subdivision and Development Regulations, the Stormwater Management Program, the Floodplain Ordinance, and the Comprehensive Plan.
- Transportation planning in Jefferson County is conducted through the **Hagerstown/Eastern Panhandle Metropolitan Planning Organization** (HEPMPO). One of the primary roles and responsibilities of the HEMPO is the develop and update the Long-Range Transportation Plan, as mandated by federal transportation authorization legislation. HEPMPO works in conjunction with the Washington County Planning Department (MD) and the Region 9 Planning and Development Council (WV) to conduct the required planning and to work towards accomplishing the transportation goals of the region.
- **Jefferson County Emergency Communications Center** serves residents and businesses across the region with various types of emergency and non-emergency situations. This office acts as the primary contact for those needing assistance from public safety response personnel.
- **Eastern Panhandle Conservation District** provides local assistance to individuals and organizations that interact with the region's natural resources. Their mission is to work collectively to sustain and improve natural resources in the Eastern Panhandle

There are a number of associations and institutions in the region that support hazard mitigation planning:

- Elks Run Watershed Group
- Cacapon Institute
- The Mountain Institute
- Friends of Cacapon River

- Appalachian Trail Conservancy
- Eastern Panhandle Business Association
- Eastern Panhandle Empowerment Center
- Eastern Panhandle Transit Authority
- Eastern WV Community Foundation
- Jefferson County Community Ministries
- Jefferson County Farm Bureau

State agencies agency which can provide technical assistance for mitigation activities include, but are not limited:

- West Virginia Department of Health and Human Resources;
- West Virginia Department of Agriculture
- West Virginia Division of Natural Resources
- West Virginia Geological and Economic Survey
- West Virginia Emergency Management Division
- Environmental Protection; and
- West Virginia Department of Transportation.
- West Virginia Development Office
- Region 9

Jefferson County can also partner with Federal agencies for technical assistance on mitigation activities. These agencies include but are not limited to:

- Army Corp of Engineers;
- Department of Housing and Urban Development (HUD);
- Department of Agriculture (DOA);
- Economic Development Administration;
- Emergency Management Institute (EMI);
- Environmental Protect Agency (EPA);
- Federal Emergency Management Agency (FEMA); and
- Small Business Administration.

Finally, regional organizations can enhance Jefferson County's mitigation capabilities. The Eastern Panhandle Regional Planning and Development Council (Region 9) encompasses Jefferson, Berkeley and Morgan counties and provides a variety of planning and project management services and can assist counties and municipalities in planning or implementation of mitigation projects.

Other local organizations that could act as partners for future mitigation activities include local business development organizations such as the Chamber of Commerce, and historical or cultural societies and

agencies, universities, medical providers, schools, churches, and community organizations. Table 5-3 provides a summary of administrative capabilities within each jurisdiction. Results for this capabilities analysis was gathered from County and municipal agencies during the 2023 plan update process.

Table 5-3: Summary of Administrative Capabilities in Jefferson County

COMMUNITY	ENGINEERING	PLANNING COMMISSION/ PLANNING DEPARTMENT	FLOODPLAIN MANAGER	GRANT ADMINISTRATOR	CODE ENFORCEMENT
Jefferson County	✓	✓	✓	-	✓
Charles Town	✓*	✓	✓	✓[2]	✓
Ranson	-	✓	✓	✓	✓
Harpers Ferry	-	-*	-*	-	✓
Shepherdstown	✓*	✓	-	✓[2]	✓
Bolivar	-[1]	✓	-[1]	-[1]	-[1]

*The municipality outsources this technical capability to consultants or relies on the County

[1] Did not complete second part of capabilities assessment survey – Available Staff and Technical Assistance

[2] Completed by Finance Department or Town Administrator

Municipalities were asked to measure (Limited, Moderate or High) the jurisdiction's capability to effectively implement hazard mitigation strategies under 4 areas:

- Planning and Regulator Capability
- Administrative and Technical Capability
- Fiscal Capability
- Community Political Capability

Respondents gave mixed rankings when asked to assess their capabilities. Harpers Ferry rated themselves Limited in all areas. Ranson rated themselves “high” in all areas and moderate in community political capability. Charles Town rated themselves moderate in all areas but limited in administrative and technical capability. Shepherdstown rated themselves moderate in planning and regulatory as well as administrative and technical. They rated themselves high in fiscal and community political capabilities, Bolivar did not answer the second part of the capabilities analysis.

5.5. Financial Capability

In general, the more financial resources a municipality has, the more technically capable it will be from a

resource availability perspective. This is not necessarily the case, however, when analyzing technical capability from a knowledge/skill level perspective. As such, technical capability must be analyzed by each municipality prior to implementing any hazard mitigation activity. It is important to note; however, that much like fiscal capability, shortfalls in technical capability may be overcome by cooperative arrangements, coordinated efforts, and/or resource efficiency.

Financial capability is important to the implementation of hazard mitigation activities. Every jurisdiction must operate within the constraints of limited financial resources. During the 1960s and 1970s, state and federal grants-in-aid were available to finance many programs, including street improvements, water and sewer facilities, airports, and parks and playgrounds. During the early 1980s, there was a significant change in federal policy, based on rising deficits and a political philosophy that encouraged states and local governments to raise their own revenues for capital programs, resulting in the need to identify alternate means to augment revenue. After the COVID-19 pandemic, communities across the country will face new challenges in balancing community economic recovery while also implementing hazard mitigation.

Financial status is not the only factor in determining hazard mitigation capability. There are also numerous partnering opportunities and grant programs available to assist in offsetting the expenses of local hazard mitigation efforts. While some mitigation actions are less costly than others, it is important that money is available locally to implement policies and projects. Financial resources are particularly important if communities are trying to take advantage of state or federal mitigation grant funding opportunities that require local-match contributions. Based on the assessment results received, most municipalities within the County perceive fiscal capability to be limited; however, several communities listed their capability to be moderate.

5.5.1. Capital Improvement Program

The most common fiscal tool available to communities is the Capital Improvement Program (CIP). A CIP is a community planning and fiscal management tool used to coordinate the timing and financing of capital improvements over a multi-year period. A CIP includes a prioritized list of improvements to roads, parks, and other facilities that the community plans to undertake in a given period.

Jefferson County's annual CIP features only five general categories that are available for funding from impact fees. While none of the categories are directly associated with Hazard Mitigation Planning, CIP funds are directed to Parks and Recreation and the Emergency Services Agency improvement projects. In general, revenues available to fund capital projects may be classed into one of the following categories:

- Direct County support
- General Obligation/Construction Bonds
- State support
- Federal grants

- Impact fees
- Entity-specific user fees
- Donations and gifts

5.5.2. Community Development Block Grants

Jefferson County is also eligible for Community Development Block Grant (CDBG) funding from the US Department of Housing and Urban Development (HUD) but the 5 municipalities are not eligible. The program is designed to assist vulnerable populations within the community by ensuring affordable housing, creating jobs, and providing direct services. The amount of each grant is determined by a formula that accounts for the community's need, poverty, population, housing, and comparison to other areas. The annual appropriation is divided among the state and local jurisdictions (referred to as "non-entitlement communities" and "entitlement communities"). The majority of CDBG funds are required to be spent to benefit low- and moderate-income citizens.

5.5.3. Water and Sewer Authority Fees

Water authorities are multi-purpose authorities with water projects, many of which operate both water and sewer systems. The financing of water systems for lease back to a municipality is among the principal activities of the local government facilities' financing authorities. An operating water authority issues bonds to purchase existing facilities or to construct, extend, or improve a system. The primary source of revenue is user fees based on metered usage. The cost of constructing or extending water supply lines can be funded by special assessments against abutting property owners. Tapping fees also help fund water system capital costs. Water utilities are directly operated by municipal governments and by privately owned public utilities regulated by the Public Service Commission of West Virginia.

Sewer authorities include multipurpose authorities with sewer projects. The authorities issue bonds to finance acquisition of existing systems or to finance construction, extension, and improvements. Sewer authority operating revenues originate from user fees. The fee frequently is based on the amount of water consumed, and payment is enforced by the ability to terminate service or the imposition of liens against real estate. The Jefferson County Public Service District collects water and sewer fees to fund capital improvement projects.

State programs which may provide financial support for water and sewer related mitigation activities include, but are not limited to:

- WV DOC Land & Water Conservation Fund
- WV DEP Abandoned Mine Lands & Reclamation Program
- WV DEP Watershed Project Grants/Nonpoint Source Projects
- WV DEP Rehabilitation Environmental Action Plan (REAP) Grants
- WV DOT Transportation Alternatives Program

- WV DOH Recreational Trails Fund Program
- WV DOF Municipal Tree Restoration Program
- WV DOF Mountaineer Treeways Program
- WV NRCS Conservation Technical Assistance
- WVDO Community Participation Program
- Center for Rural Health Development – WV Rural Health Infrastructure Loan Program

Federal programs which may provide financial support for mitigation activities include, but are not limited to:

- The Building Resilient Infrastructure and Communities (BRIC) Program is a new funding program that will support states, local communities, tribes, and territories undertake hazard mitigation projects. BRIC is replacing the existing Pre-Disaster Mitigation (PDM) program that was previously housed under HMA programs.
- Department of Commerce (DOC)/Economic Development Authority (EDA) Construction Grant Program
- Department of Energy Weatherization Assistance Program
- Department of Homeland Security Grant Program (HSGP)
- Department of Transportation/Federal Highway Administration Emergency Relief Program
- DOC/EDA Planning Grants
- DOC/EDA Revolving Loan Fund
- DOC/EDA Technical Assistance Grants
- FEMA Community Assistance Program – State Support Services Element (CAP-SSSE)
- FEMA Community Disaster Loan Program
- FEMA Community Rating System
- FEMA Emergency Management Performance Grants (EMPG)
- FEMA Environmental Planning and Historic Preservation Program (EHP)
- FEMA Flood Mitigation Assistance Program
- FEMA Hazard Mitigation Grant Program (HMGP)
- FEMA Individuals and Households Program (IHAP)
- FEMA National Dam Safety Program
- FEMA National Flood Insurance Program
- FEMA Pre-Disaster Mitigation Program
- FEMA Public Assistance Program (PA)
- FEMA Regional Catastrophic Preparedness Grant Program
- FEMA Severe Repetitive Loss Grant Program
- Housing and Urban Development (HUD) 5-H Homeownership Program
- HUD Community Development Block Grants (CDBG)

- HUD Community Development Block Grant Disaster Recovery Program (CDBG-DR)
- HUD Disaster Housing Assistance Program
- HUD/Federal Housing Administration (FHA) Title 1 Home Repair Loan Program
- HUD/FHA Section 203(h) Mortgage Insurance for Disaster Victims
- HUD/FHA Section 203(k) Rehabilitation Mortgage Insurance Program
- HUD Partnership for Advancing Technology in Housing
- HUD Section 108 Loan Guarantee Programs
- Internal Revenue Service Casualty Loss-Special Disaster Provisions
- National Oceanic and Atmosphere Administration (NOAA) StormReady Program
- Natural Resources Conservation Service (NRCS) easement programs
- Small Business Administration Disaster Loan Programs
- United States Army Corps of Engineers (USACE) General Investigation (GI)
- USACE Continuing Authorities Program
- USACE Flood Plain Management Services Program (FPMS)
- USACE Inspection of Completed Works Program (ICW)
- USACE Planning Assistance to States
- USACE Rehabilitation and Inspection Program (RIP)
- United States Department of Agriculture (USDA)/Farm Service Agency (FSA) Emergency Conservation Program
- USDA Emergency Conservation Program
- USDA/FSA Emergency Farm Loans
- USDA Non-insured Crop Disaster Assistance Program (NAP)
- USDA/NRCS Emergency Watershed Protection Program
- USDA Repair and Rehabilitation Loan
- USDA/Rural Housing Service (RHS) Community Facilities Loans and Grants
- USDA/RHS Rural Rental Loans
- USDA/RHS Section 502 Single-Family Housing Direct and Guaranteed Loans
- USDA/RHS Section 504 Repair Loans and Grants
- USDA/RHS Self-Help Housing Loans
- USDA/Risk Management Agency Federal Multi-Peril Crop Insurance
- USDA/Rural Business Service Business and Industrial Loans
- USDA Watershed Protection and Flood Prevention Program
- USDOT Pipeline and Hazardous Materials Safety Administration (PHMSA) Hazardous Materials Grant Program

Many of most significant mitigation grants are processed through the WVEMD, including:

- Emergency Management Performance Grants (EMPG)

- Hazardous Materials Emergency Planning (HMEP) Grants
- Severe Repetitive Loss Program
- Repetitive Flood Claims (RFC)
- Recovery Grants including Hazard Mitigation, Public Assistance (PA), and Flood Mitigation Assistance (FMA) Program
- Statewide Local Implementation Grant (SLIGP)
- Community Assistance Program State Support Services Element (CAPSSE)
- Cooperating Technical Partners (CTP)

Chesapeake Bay funding initiatives may be applicable to fund some types of water protection mitigation actions as well.

5.6. Education and Outreach

Education and outreach programs and methods are used to implement mitigation activities and communicate hazard-related information. Jefferson County may benefit from greater involvement in educational programs such as fire safety programs that fire departments deliver to students at local schools, participation in community programs, such as Firewise USA® or StormReady®, and activities conducted as part of hazard awareness campaigns, such as Tornado or Flood Awareness Month.

5.6.1. Firewise USA® Program

The National Fire Protection Association (NFPA) administers the Firewise USA® Program to encourage local solutions for safety by involving homeowners in taking individual responsibility for preparing their homes from the risk of wildfire. The program provides resources to help homeowners learn how to adapt to living with wildfire and encourages neighbors to work together to take action to prevent losses. The national Firewise USA® Recognition Program has nearly 1,000 active member communities in 40 states, as well as a participation retention rate of 80 percent over the past decade. The program, aimed at homeowners, provides specific criteria for communities regarding wildfire preparedness, and offers national recognition for their work.

5.6.2. StormReady®

StormReady® is an education and outreach program that helps arm communities with the communication and safety skills needed to save lives and property before, during, and after an event.

Jefferson County is a *StormReady®* designated County because of its commitment and capability to monitor and spread weather-related warnings and safety precaution measures to the public.

5.6.3. NOAA Weather-Ready Nation (WRMN) Ambassador

NOAA WRMN Ambassador is a designation which recognizes NOAA partners that are improving resilience against extreme weather events. Partners help unify efforts across government, non-profits, academia, and private industry toward making the community and the nation more ready. According to NOAA, Ambassadors:

- Promote Weather-Ready Nation messages and themes to their stakeholders;
- Engage with NOAA personnel on potential collaboration opportunities;
- Share their success stories of preparedness and resiliency; and
- Serve as an example by educating employees on workplace preparedness.

NOAA supports Ambassadors by:

- Providing outreach content about creating a Weather-Ready Nation;
- Exploring innovative approaches for collaboration; and
- Assisting with StormReady/TsunamiReady opportunities.

5.6.4. Farmland Preservation

Farmland preservation measures are important to hazard mitigation. Preserved farms protect soil from erosion and prevent the contamination of local surface water. In addition, farms and forest land are important for recharging the community's aquifer and providing habitat for local wildlife.

Since its creation in July of 2000, the Jefferson County Farmland Protection Board has successfully protected 6,540 acres of farmland across 56 farms by placing them under an easement. As of May 2023, the board's easement value totaled $39,306,124, with funding coming from a mixture of County, state, federal, and donation sources (Jefferson County FPB, 2023).

5.6.5. West Virginia Parcel Viewer

This program allows users to map parcel, floodplain, E-911 addresses, and zoning information among other things, from the State website at https://www.mapwv.gov/parcel/.

The WV Flood Tool, https://www.mapwv.gov/flood/map/, is a tool available for more in-depth information related to flooding and landslide susceptibility. This is a helpful tool for the State's residents to assess their level of flood risk more accurately.

5.7. Plan Integration

Plan integration recognizes that hazard mitigation is most effective when it works in concert with other plans, regulations, and programs. Per FEMA, plan integration is described as the regular consideration and management of hazard risks in a community's existing planning framework. Plan integration is the process by which communities critically analyze their existing planning framework and align efforts to build a safer, smarter community. Plan integration involves a two-way exchange of information and incorporation of

ideas and concepts between hazard mitigation plans (state and local) and other community plans. Specifically, plan integration involves the incorporation of hazard mitigation principles and actions into community plans and community planning mechanisms into hazard mitigation plans (FEMA, 2015).

When updating the HMP, County Comprehensive Plans, Multi-Municipal Plans, EOPs, and various land use ordinances and regulations provided key information and should be referenced where appropriate throughout the plan. Moving forward, each of these documents should not be treated as unrelated and updated separately. The County and each participating municipality are responsible for incorporating the specific mitigation actions recommended in this Plan into the necessary planning documents, including the appropriate comprehensive plan, the County EOP, and any land use ordinances and regulations.

For example, zoning and other land use regulations can be amended to reflect the newly identified hazard areas, to ensure that development in those areas is minimized or at least conducted in a way that otherwise mitigates against the effects of hazards (e.g., requiring structures built in the floodplain to be elevated). As proposed changes to building codes are presented, their potential for mitigating damage due to hazards will be examined, and the changes will only be adopted if they are shown to lower risk. Changes to stormwater management plans will incorporate identified mitigation actions and will encourage increased participation in the NFIP.

Jefferson County will make recommendations to local jurisdictions on how to integrate the HMP into their Comprehensive Plans as they are updated and recommend additional areas for integration of the plan into the next update to the County's Comprehensive Plan. The County will also communicate with local governments to encourage them to incorporate the HMP into their local plans as applicable.

Plan integration is not only accomplished through planning tools such as comprehensive plans and zoning ordinances, but through capital improvement planning, area plans such as highway corridors and downtown plans, functional plans like stormwater and open space plans, and public and stakeholder outreach and education. This section highlights key opportunities for plan integration in Jefferson County.

Overall, the administrative and technical capabilities of many of the jurisdictions within the County has been a limiting factor in HMP integration into local documents. Moving forward with HMP updates, Jefferson County should have a more apparent presence in the drafting and updating of municipal planning and enforcement documents, to reinforce the integration of the HMP. Jefferson County should make sure that HMP integration is on the LEPC agenda, and that representatives from each municipality are present at these meetings.

5.7.1. Jefferson County Comprehensive Plan

The Jefferson County Planning Commission is responsible for updating and maintaining the County Comprehensive Plan and Subdivision Ordinance. The 2015 (Amended 2022) Countywide Comprehensive Plan for Jefferson County, Envision Jefferson 2035 is currently being updated. Future comprehensive plan

updates should consider 2023 HMP findings to guide future growth and development away from the hazard-prone areas.

Statements regarding housing plans can recommend not only that the public sector make investments in infrastructure primarily within planned growth areas, but also recommend that investments be made primarily in areas which have not been identified as being hazard prone in Section 1: Land Use and Growth Management. For example, while manufactured housing is described on the comprehensive plan, it does not mention measures that could allow them to better withstand dangers like severe wind events. Also under this element, the Limitations of Existing Zoning Designations discusses an increase in development in areas that might not be sufficiently or adequately supported by water and sewer services as the population grows. Additionally, the growing distance of new developments could make it more difficult for emergency services to arrive when needed. Components of the County Comprehensive Plan can be incorporated into the HMP, and plans can share recommendations related to hazard mitigation. For example, Jefferson County's Comprehensive Plan mentions that both Wilt Road and John Rissler Road, which are connected to the WV 115 highway, both lead to dead ends while being located on the 100-Year Floodplain and experiencing period flooding. In the case of an emergency, it would be difficult to access the area and provide necessary assistance.

Jefferson County should continue to make hazard data available when the 2023 HMP update is complete. The updated hazard data can be used to help update the County and local comprehensive plans and other planning documents. Additionally, hazard related data from consistency reviews should be transmitted annually to be used as part of the Region's annual HMP review. This data can be used to help track plans and projects not only for the annual HMP review but for the 2027 HMP update.

5.7.2. Emergency Operations Plan

West Virginia Code §15-5 requires that state and local jurisdictions develop and maintain current emergency operations plans (EOPs) in order to be prepared for a variety of natural and human-caused hazards. Both County's EOPs are administered by the County's Office of Homeland Security and Emergency Management.

Jefferson County's EOP are all-hazards plans that comply with the National Incident Management System (NIMS) and is the basis for a coordinated and effective response to any disaster that may affect lives and property in the County. The EOP, or portions thereof, would be implemented when emergency circumstances warrant it.

5.7.3. Evacuation Plan

Evacuation is one of the most widely used methods of protecting the public from hazard impacts. The easiest way to minimize death and injury due to a hazard event is to remove as many people as possible from its path. Evacuation plans include descriptions of the area(s) being evacuated, the demographics and

characteristics of people within those area(s), transportation routes to safe areas, and how the community will support those individuals who do not have access to their own transportation. The County's EOPs notes above addresses various evacuation situations, such as evacuation plans for hazardous material spills and flooding. Emergency Action Plans developed for dams also contain evacuation.

5.7.4. Parks & Recreation Master Plan

The Jefferson County Parks and Recreation 2026 Master Plan outlines several generalized concept ideas that would likely have major positive impacts on the County's natural resources, which include numerous national parks and waterways. Moreover, the County aims to optimize the utilization of its natural resources by making them accessible to the public as recreational amenities.

For example, Jefferson County possesses an approximate 100 miles of dedicated trails, which tend to have some of the highest recreation participation rates. To increase public access and attraction to the trails, the County aims to connect existing trail segments to local neighborhoods and greater regional destinations.

The Potomac River, the Shenandoah River, and the Opequon Creek all surround Jefferson County, while the Evitts Run Creek, the Flowing Springs Creek, and the Cattail Run Creek run through it. Currently, the plan proposes to find cost-effective purchasing or land acquisition rights to waterfront properties, which will increase recreation access to tourists and residents, while also allowing the County to protect the health and stability of the waterways. Additionally, the plan has identified sites in which to extend public parkland, so the County can close its outdoor space deficit and account for the future needs that will accompany the predicted population growth.

6. Mitigation Strategy

6.1. Update Process Summary

The mitigation strategy serves as the long-term road map to reduce the potential losses, vulnerabilities, and shortcomings identified in the Hazard Identification and Risk Assessment section. A typical mitigation strategy includes a list of goals, with mitigation actions to address the goals, that are then prioritized based on the community's need.

Goals are long-term aspirations about the resiliency of the community given the potential effects of hazards.

Actions are the tasks that are proposed for realizing each goal.

Hazard mitigation goals are general guidelines that represent what the community wants to achieve through the implementation of mitigation projects. These goals work together to lessen loss of life, injury, and damage to property, the economy, and the environment from the identified hazards in Section 2.4 Hazard Profiles.

This section of the plan provides the following three components that comprise the Mitigation Strategy for Jefferson County and the municipalities of Bolivar, Charles Town, Harpers Ferry, Ranson, and Shepherdstown.

- **Goals** are general guidelines that explain what the jurisdiction would like to achieve. They are broad policy-type statements, long term, and represent global visions.
- **Mitigation Actions** are more specific than goals, and have identified responsible parties, timeframes, and potential funding sources. They are the specific actions to achieve goals.
- **Projects** are comprised of one or more mitigation actions and include information such as project discussion, partners, cost estimate, potential funding, benefits (losses avoided), and ideas for integration.

As part of the plan update process, information from the previous mitigation strategy portion of the plan was shared with the Hazard Mitigation Planning Committee (HMPC), which includes municipal representatives. Goals and objectives identified in the 2018 Plan were reviewed and updated, as well as mitigation actions. This process occurred at both the mid-point meeting and the mitigation workshop, and the steps undertaken are outlined in the meeting notes, found in Appendix D.

Note: Mitigation projects were developed for the 2018 Hazard Mitigation Plan, however a more in-depth process was included as part of this plan update. This included the four-hour mitigation workshop that included prioritization, however a second prioritization was conducted using an online survey, which yielded a listing of mitigation actions identified for further development, resulting in new project sheets included in this plan section. These project sheets will inform grant applications, particularly the initial Notice of Interest/Intent.

6.2. Mitigation Goals

During the Mitigation Workshop held July 27, 2023, the Hazard Mitigation Planning Committee (HMPC) members were provided goals from the 2018 Hazard Mitigation Plan for review, as well as goals from both the West Virginia State Hazard Mitigation Plan, and the 2022 Berkeley-Morgan County Hazard Mitigation Plan for reference. Members reviewed each of the goals and determined which goals should remain in the plan update. Also, HMPC made modifications, resulting in two (2) updated goals. Finally, HMPC members were also provided the opportunity to develop new goals for the plan update, resulting in three (3) new goals.

Table 6-1 indicates 2018 goals and updated 2023 mitigation goals.

Table 6-1: Mitigation Goals	
2018 Mitigation Goals	**2023 Mitigation Goals**
GOAL 1: Improve communication resiliency through planning, partnerships, and infrastructure development.	**GOAL 1:** Improve communication resiliency through planning, partnerships, and infrastructure development.
GOAL 2: Enhance resiliency of water resources by providing it where it is needed and managing it where it is abundant.	**GOAL 2:** Enhance resiliency of county and municipal water resources to reduce flood damage by limiting development in floodplains, effectively managing stormwater, and reducing the possibility of source water contamination.
GOAL 3: Promote all-hazards awareness, education, and training to the public, responders, and officials.	**GOAL 3:** Promote all-hazards preparedness, awareness, education, and training to the public, responders, and officials.
GOAL 4: Reduce the vulnerability of populations in risk areas from all hazards.	**GOAL 4:** Reduce the vulnerability of populations by creating and integrating programs and projects that are designed to reduce hazards in risk areas.
	GOAL 5: Promote hazard mitigation as a local community value in recognition of its importance to the health, safety, and welfare of the population.
	GOAL 6: Improve operating systems and backup servers to enhance cyber security measures.
	GOAL 7: Enhance hazardous materials response planning and response operations.

Mitigation actions provide detailed descriptions of specific work tasks to accomplish in order to achieve the mitigation goals. The 2018 mitigation actions were distributed to HMPC members and municipalities for status updates on each mitigation action.

6.3. Mitigation Actions and Projects

Mitigation goals form the foundation of actions developed by the Hazard Mitigation Planning Committee (HMPC). Mitigation actions provide detailed descriptions of specific work tasks to accomplish in order to achieve the mitigation goals. To further refine and categorize mitigation actions, the following six (6) categories have been applied to each mitigation action item, as applicable.

- **Local plans and regulations:** Government authorities, policies, or codes that influence the way land and buildings are developed and built. Examples include, but are not limited to

comprehensive plans, subdivision regulations, building codes and enforcement, and NFIP and CRS.

- **Structure and infrastructure:** Modifying existing structures and infrastructure or constructing new structures to reduce hazard vulnerability. Examples include but are not limited to acquisition and elevation of structures in flood prone areas, utility undergrounding, structural retrofits, floodwalls and retaining walls, detention and retention structures, and culverts.
- **Natural systems protection:** Actions that minimize damage and losses and also preserve or restore the functions of natural systems. Examples include but are not limited to sediment and erosion control, stream corridor restoration, forest management, conservation easements, and wetland restoration and preservation.
- **Education and awareness**: Actions to educate citizens, elected officials, and property owners about hazards and ways to mitigate the hazards and may also include participation in national programs. Examples include but are not limited to radio/television spots, websites with maps and information, provide information and training, NFIP outreach, StormReady, and Firewise Communities.
- **Emergency services and public health:** Actions to improve planning, preparedness, and training for emergency services and public health. Examples include training events, exercises, and plans.
- **Municipal:** Actions specific to municipalities, which include one or more of the mitigation categories above.

Table 6-2 provides a matrix identifying the mitigation techniques per category used for the hazards identified in the risk assessment for Jefferson County.

Table 6-2: Mitigation Techniques Used for All Hazards in Jefferson County

Hazard *(In Order of Risk Factor Ranking)*	Mitigation Technique				
	Plans and Regulations	Structure and Infrastructure	Natural Systems Protection	Education and Awareness	Emergency Service & Public Health
Public Health & Pandemic					X
Cyber Terrorism	X	X		X	
Utility Interruption		X		X	
Drought	X		X		
Extreme Temperatures	X		X		
Flood	X	X	X	X	
Severe Thunderstorm & Hail	X	X	X	X	
Severe Winter Storm	X				

Table 6-2: Mitigation Techniques Used for All Hazards in Jefferson County

Hazard *(In Order of Risk Factor Ranking)*	Mitigation Technique				
	Plans and Regulations	Structure and Infrastructure	Natural Systems Protection	Education and Awareness	Emergency Service & Public Health
Wild & Urban Fires	X			X	
Hazardous Materials					X
Terrorism	X			X	
Earthquake	X				
Invasive Species			X	X	
Landslide & Subsidence	X	X	X	X	
Severe Wind and Tornado	X				
Dam Failure		X		X	X
Civil Disturbance	X				X
Karst	X				

Note: Each mitigation technique has numerous mitigation actions items that apply to all hazards.

In order to determine mitigation actions that should be carried over from the 2018 Plan, previous mitigation actions were reviewed by HMPC members and municipal representatives, Appendix H. While many of the mitigation actions were completed in part, the status of Jefferson County specific mitigation actions were identified as either ongoing, cancelled, or deferred. Whereas the status of municipal specific action items did include several identified as completed. See summarized mitigation status matrix below.

Table 6-3: 2018 Mitigation Status Matrix

Status	Jefferson County	Town of Bolivar	Town of Charles Town	Town of Harpers Ferry	City of Ranson	Town of Shepherdstown
Ongoing	80	2	7	1	2	2
Cancelled	2	1	0	0	0	0
Deferred	10	0	0	2	0	0
Complete	0	0	0	1	1	1

During the Mitigation Workshop on July 27th, HMPC members were divided into small groups based on the previously mentioned six (6) mitigation action categories. Each group was provided mitigation action tables which listed actions from the 2018 HMP for review and update. Actions that were deferred or considered ongoing were carried over to the 2023 Action Plan. New mitigation actions developed during the planning process were provided, as well. Furthermore, participants were provided a blank mitigation action form to provide any new actions that had not been developed prior to the Mitigation Workshop.

Participants reviewed over eighty (80) mitigation actions for potential inclusion in the plan update. The review resulted in a total of thirty-eight (38) new mitigation actions. While thirty-six (36) mitigation actions were carried over from the previous plan. This review process yielded a total seventy-five (75) mitigation actions:

- Local Planning and Regulations- 22 Action Items (15 new)
- Structure and Infrastructure Projects- 8 Action Items (6 new)
- Natural Systems Protection- 6 Action Items (4 new)
- Education and Awareness Programs- 20 Action Items (7 new)
- Emergency Services/Public Health – 19 Action Items (7 new)
- Municipal- 49 Action Items (actions items were not identified separately in 2018 HMP)

Note: Action items carried forward from the previous plan are denoted in Tables 6-4 to 6-8 with an asterisk (*).

Next, mitigation actions that resonated the most with HMPC members were selected and developed into projects. Selected actions were developed into fourteen (14) project worksheets. The projects included one or more mitigation actions depending on the type and scope of the project. Mitigation project worksheets are included in this section and immediately follow each mitigation action category table.

Finally, following the Mitigation Workshop, a survey containing all fourteen (14) project worksheets was provided to all HMPC members and municipal representatives for additional ranking purposes. The basis for this survey is the STAPLEE evaluation method, which uses standard criteria for evaluation: Social, Technical, Administrative, Political, Legal, Economic, and Environmental. The survey consisted of the six (6) questions and asked members to answer with, Yes/No/or Unsure, which corresponded to a point system to determine whether the projects were a "high" priority. These six (6) questions included the following:

1. Do you think there would be community acceptance/general support for this mitigation project?
2. Do you think implementation of this mitigation project will enhance the health and safety of the community?
3. Do you think the community will be able to sufficiently staff and/or provide technical support to implement this mitigation project?
4. Do you think the benefits of this mitigation project will exceed the likely costs?
5. Do you think the maintenance requirements for this option will be affordable and not provide an undue burden on the County?
6. Is this project consistent with environmental goals?

As a result, four (4) projects were rated as "high" priority. These four (4) projects have been denoted as high priority on the project worksheets included on pages 18, 20, 40, and 42 and are as follows:

- Project 4: Snow Removal MOU and Debris Management Plan
- Project 5: Dark Grid Training & Exercises
- Project 13: Citizen Preparedness Training and Outreach
- Project 14: Hazard Materials Response Plan and Training

Note: The following pages include a divider sheet denoting the mitigation category and associated actions and projects. While mitigation funding sources for projects, please refer to Appendix A Mitigation Funding Sources as these action items are further developed during this planning cycle.

Definitions: *Short Term 1-3 years*

Long Term 3-5 years (or greater)

Local Planning and Regulations

Mitigation Action Items & Project Sheets

Table 6-4: Local Planning and Regulations Mitigation Action Items

ID #	Mitigation Action	Hazard(s)	Responsible Agency	Timeframe
LPR #1	Review all existing regulations, comprehensive plans, capital improvement plan (CIP) and Emergency Operation Plan (EOP) to ensure that designated growth areas are not in hazard areas. Review existing regulations to ensure adequacy in reducing the amount of future development in identified hazard areas.	All hazards	Engineering, Planning, and Zoning	Short-term
LPR #2	Encourage the use of laminated glass in windowpanes during all new construction.	Severe Weather, Tornado, Earthquake, Civil Disturbance, Terrorism	Homeland Security and Emergency Management	Long-term
LPR #3	Work with FEMA and WVDHSEM on the Map Modernization Program to improve 2009 FIRMS.	Flood	Homeland Security and Emergency Management	Short-term
LPR #4	Strengthen Community Rating System (CRS) program to enhance rating by undertaking outreach and training efforts such as: distribute letters to all property owners in the county regarding potential flood hazards as required for participation in the CRS. and provide training to municipalities on the CRS program and encourage them to participate.	Flood	Homeland Security and Emergency Management	Short-term
LPR #5	Consider implementing open space designations in landslide prone areas, to keep those areas undeveloped.	Landslide	Homeland Security and Emergency Management & Engineering, Planning, and Zoning & Parks and Recreation	Short-term
LPR #6	Reduce the risk of mobile home damage by suggesting the use of tie-downs with ground anchors appropriate for the soil type.	Severe Wind and Tornado	Engineering, Planning, and Zoning & Homeland Security and Emergency Management	Short-term
LPR #7	Consider passing ordinances to prioritize or control water use, particularly for emergency situations such as firefighting.	Wild and Urban Fires	Engineering, Planning, and Zoning	Long-term

***LPR #8**	Consider updating the County's floodplain management ordinance in advance of the FEMA FIRM/FIS map update to be compliant with the NFIP regulations (44 CFR 59 & 60). Please note that the ordinance update will be a requirement and must occur prior to the new effective map date to avoid suspension from the NFIP.	Flood	Engineering, Planning, and Zoning & Homeland Security and Emergency Management	Short-term
***LPR #9**	Add additional floodplain management and permitting information to the County website, i.e., permit application, links to state (www.mapwv.gov) and federal floodplain mapping (https://msc.fema.gov/portal/home) and insurance programs (www.floodsmart.gov). Both county and municipal website, as applicable.	Flood	Engineering, Planning, and Zoning & Emergency Management	Short-term
***LPR #10**	Develop and publish an updated Substantial Damage/Substantial Improvement (SI/SD) Administrative Procedure and post on the County website. Both county and municipal website, as applicable.	Flood	Homeland Security and Emergency Management	Short-term
***LPR #11**	Communities that develop a substantial damage management plan are eligible to obtain credit under Activity 510 (Floodplain Management Planning). Such a plan identifies steps that a community can take before a flood or other hazard-caused event to efficiently and effectively meet the NFIP requirement for assessing damage and making substantial damage determinations.	Flood	Homeland Security and Emergency Management	Short-term
***LPR #12**	Integration of hazard planning into both the County and Municipal planning frameworks, which will lead to development patterns and redevelopment that decreases hazard risk and vulnerability. To achieve and facilitate integration, Jefferson County and the Towns should review how planning documents, policies, codes, and programs are maintained and implemented, and the roles of people, agencies, and departments in evaluating and updating them. This depth of review will enable the County and the Towns to identify opportunities for plan integration, resulting in effective ways to reduce hazard vulnerability. Compare areas slated for growth including redevelopment with hazard risk areas.	All hazards	Engineering, Planning, and Zoning & Homeland Security and Emergency Management	Short-term
***LPR #13**	Increase CRS class rating from a 7 to a 6, thereby increasing flood insurance rate for residents living in the unincorporated areas of Jefferson County. Include review of the 2023 HMP in the next verification visit in order to obtain points under CRS Program's Activity: Floodplain Management Planning.	Flood	Homeland Security and Emergency Management	Short-term
***LPR #14**	Develop an Extreme Heat Emergency Plan identifying triggers, surveillance, and actions.	Extreme Temperature	Health Department & Homeland Security and Emergency Management	Short-term

***LPR #15**	2023 Mitigation Strategies should be reviewed in reference to the Capital Improvement Plan for integration purposes. Projects that reduce risk and vulnerability to the citizens of Jefferson County should be given prioritization.	All hazards	Engineering, Planning, and Zoning	Short-term
***LPR #16**	Establish best practices and recommendations for karst areas, including land use, resiliency, and infrastructure.	Karst	Engineering, Planning, and Zoning	Long-term
***LPR #17**	Adjust construction regulations to include areas where mapped and verified karst terrain exists, double layers of silt fencing may be implemented, as well as hay bales or core logs along the periphery of the standard workspace area to prevent outward migration of silt and reduce runoff velocity.	Karst	Engineering, Planning, and Zoning	Long-term
***LPR #18**	Establish a County Cyber Security and Risk Mitigation Plan to be implemented by county and 5 jurisdictions.	Cyber Terrorism	Homeland Security and Emergency Management & Information Technology	Long-term
***LPR #19**	Encourage the county and municipalities to adjust their zoning ordinance to discourage development on permeable soils to reduce the impacts of drought.	Drought	Engineering, Planning, and Zoning & Development Authority	Long-term
***LPR #20**	Enforce building codes to ensure structural stability during hazard events.	Severe Windstorm, Winter Storm, Earthquake, Hurricane	Engineering, Planning, and Zoning	Short-term
***LPR #21**	Work with the utility and cable companies to develop a plan for the preventive right-of-way maintenance of trees near powerlines particularly during the winter.	Winter Storm	Engineering, Planning, and Zoning	Long-term
LPR #22	Schedule a FEMA Region 3 Significant Damage/Significant Improvement training. WVEMD delivered SD/SI training that FEMA supports. CY2024 training TBD.	Flood	Homeland Security and Emergency Management	Short-term

Project 1: Review Codes for Hazard Mitigation Integration Opportunities	
Action Item(s):	**LPR #12:** Integration of hazard planning into both the County and Municipal planning frameworks, which will lead to development patterns and redevelopment that decreases hazard risk and vulnerability. To achieve and facilitate integration, Jefferson County and the Towns should review how planning documents, policies, codes, and programs are maintained and implemented, and the roles of people, agencies, and departments in evaluating and updating them. This depth of review will enable the County and the Towns to identify opportunities for plan integration, resulting in effective ways to reduce hazard vulnerability. Compare areas slated for growth including redevelopment with hazard risk areas.
Project Title:	**Review Codes for Hazard Mitigation Integration Opportunities**
Hazard(s):	All Hazards
Location(s):	Countywide & Municipalities
Project Discussion:	Having modern codes in place before a disaster can keep development out of high-risk areas and help the County and its municipalities achieve resilient recovery. Emergency managers and code officials should work with other local, county and state officials to ensure codes advance the mitigation goals of the county. The goals and objectives included in the Hazard Mitigation Plan are a good starting point when reviewing code for mitigation integration. When possible, higher standards should be included in zoning updates, comprehensive plans and capital improvement plans so the community can rebuild resiliently after disasters. The Alliance for National and Community Resilience created Community Resilience Benchmarks that encourage communities to review their existing buildings and suggest strategies for high-performance designs. Starting a review and adoption cycle at regular intervals, and not just after a disaster, will allow the County to respond to changes in climate, population, and growth. It also shows a commitment to improving the lives of County residents, businesses, and visitors now and in the future. When considering updating existing code to integrate additional or new hazard mitigation planning, consider the following implementation steps: 1. Identify the codes in effect in your community 2. Build a team (consider utilizing the HMPC as a starting point and expanding as needed). 3. Create a shared strategy for reducing disaster risk. 4. Map out the process for building code adoption.

<table>
<tr><th colspan="2">Project 1: Review Codes for Hazard Mitigation Integration Opportunities</th></tr>
<tr><td></td><td>5. Build the case for integrating hazard mitigation into modern building code adoption.
6. Advocate.
7. Draft the code.
8. Adopt the code without weakening amendments.
9. Enforce the code

WHAT IS A “WEAKENED” CODE?

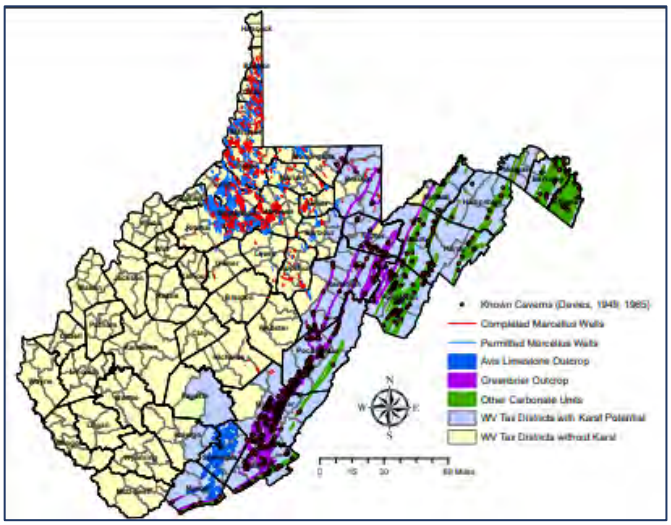
A weakened code occurs when a state or community adopts the latest code, but then passes amendments that

Finally, adopting hazard mitigation principles into modern codes is not enough to protect communities and save money prior to hazard events. To be effective, codes must be enforced. Local planners, emergency managers, and code enforcement officials collaborate directly with residents and are often their primary contact with government. Their roles are critical for educating the public about stronger codes and standards.

Working with residents in code enforcement means:
• Making a complex system easier to understand: When people are closer to the problems and solutions, we expect to see better results in community development.
• Increased support for codes and standards: Shared ownership and buy-in is achieved when residents affected by the policies engage in decision making.</td></tr>
<tr><td>Responsible Entity:</td><td>Jefferson County Department of Engineering, Planning, and Zoning
Jefferson County Office Of Homeland Security And Emergency Management</td></tr>
<tr><td>Partners:</td><td>Jefferson County Finance Department
Municipal Representatives
County Commission Office</td></tr>
<tr><td>Cost Estimate:</td><td>Staff Time</td></tr>
<tr><td>Potential Funding:</td><td>Annual Operating Budget</td></tr>
<tr><td>Benefits (Losses Avoided):</td><td>• Deconflicts legislation with current County protocols
• Supports projects aligned with plans and funding.
• Supports efforts to make the County more resilient to natural hazards by codifying hazard mitigation principles.</td></tr>
<tr><td>Ideas for Integration:</td><td>• Code of Ordinances
• Building Codes
• Comprehensive Plan
• Capital Improvement Plan</td></tr>
<tr><td>Timeline:</td><td>Ongoing</td></tr>
</table>

Project 2: Extreme Heat Emergency Plan	
Action Item(s):	**LPR 14:** Develop an Extreme Heat Emergency Plan identifying triggers, surveillance, and actions.
Project Title:	**Extreme Heat Emergency Plan**
Hazard(s):	Extreme Temperature
Location(s):	County & Municipalities
Project Discussion:	According to CDC Climate and Health Technical Report Series, extreme heat is a major public health concern in the United States. Temperatures are increasing across the country, with more frequent and severe heat waves in many regions. This trend is projected to continue. Exposure to heat may increase the risk of illness particularly among sensitive groups such as people who do not have access to air conditioning, older adults, young children, people working outdoors, athletes, the socially isolated, people with existing chronic conditions, and some communities of color. Extreme temperature events can pose a threat to the entire Jefferson County's population. Therefore, an Extreme Heat Emergency Plan should be developed for the county and its municipalities. An extreme heat emergency plan is a coordinated plan that describes and organizes activities to prevent heat-related morbidity and mortality. Potential components of an extreme heat emergency plan: • Overview of the anticipated impacts of extreme heat • Description of thresholds for activation • Identification of at-risk populations and geographies within the jurisdiction • Relevant local community considerations • Identification of preparedness, response, and recovery actions and partnerships necessary to mitigate adverse health consequences • Delineated roles and responsibilities, including how agency efforts will be coordinated with other partners and stakeholders • Evaluation and revision processes Additional elements of the plan to consider: • Implement a countywide public health monitoring system to identify heat illness events early, monitor trends, and track illnesses to intervene and prevent further harm. • Consider plans to provide shelters and cooling sites for residents. • Programs to subsidize electrical costs to enable residents to afford air conditioning and cooling. • Accelerate readiness and protection of communities most impacted by extreme heat, including through cooling schools and homes,

Project 2: Extreme Heat Emergency Plan	
	supporting community resilience centers, and expanding nature-based solutions. • Protect vulnerable populations through codes, standards, and regulations. • Increase public awareness to reduce risks posed by extreme heat. • Protect natural and working lands, ecosystems, and biodiversity from the impacts of extreme heat.
Responsible Entity:	Jefferson County Health Department Jefferson County Office Of Homeland Security And Emergency Management
Partners:	American Red Cross Jefferson County Emergency Medical Services Hospitals and Healthcare Coalitions Jefferson County Board of Education Faith-Based Organizations Local Businesses
Cost Estimate:	Staff Time
Potential Funding:	Annual Operating Budget
Benefits (Losses Avoided):	Prevents loss of life and illness.
Ideas for Integration:	Hazard Mitigation Plan Emergency Operations Plan
Timeline:	1-2 years

Project 3: Karst Mitigation Plan	
Action Item(s):	**LPR 16:** Establish best practices and recommendations for karst areas, including land use, resiliency, and infrastructure. **LPR 17:** Adjust construction regulations to include areas where mapped and verified karst terrain exists, double layers of silt fencing may be implemented, as well as hay bales or core logs along the periphery of the standard workspace area to prevent outward migration of silt and reduce runoff velocity.
Project Title:	**Karst Mitigation Plan**
Hazard(s):	Karst
Location(s):	Countywide & Municipalities
Project Discussion:	According to USGS, karst terrain is created from the dissolution of soluble rocks, principally limestone and dolomite. Karst areas are characterized by distinctive landforms and a unique hydrogeology that results in aquifers that are highly productive but extremely vulnerable to contamination. A karst landscape is characterized by the presence of sinkholes, springs, caves, ridges and sharp projections in the underlying bedrock, and highly irregular soil-rock interface.  *Source: Developing a Karst Map for West Virginia* According to the Jefferson County Foundation, Inc: Rezoning for Jefferson County Foundation, Inc. Heavy Industry fact sheet, the Jefferson Orchard site, and much of the surrounding land in Jefferson County, should not be rezoned for heavy industry, or any industry that produces toxic or hazardous emissions. It has been well defined that this portion of Jefferson County has mature karst hydrogeology. The karst landscape is a consequence of the presence of soluble bedrock, which consists of limestone in the case of Jefferson County. According to Conservation West Virginia, one of the chief complaints of the opponents of the Rockwool industrial development is that groundwater

Project 3: Karst Mitigation Plan	
	pollution from its operations can easily pollute drinking water sources for a large number of residents. A Karst Mitigation Plan addresses potential impacts and hazards related to local karst formations. Jefferson County Department of Engineering, Planning, and Zoning should collaborate with the partners mentioned below to develop the plan for Jefferson County.
Responsible Entity:	Jefferson County Department of Engineering, Planning, and Zoning
Partners:	Jefferson County Foundation, Inc. West Virginia Geological and Economic Survey Conservation West Virginia Geotechnical Engineer State of West Virginia, Department of Environmental Protection (DEP) Jefferson County Office Of Homeland Security And Emergency Management
Cost Estimate:	Staff Time
Potential Funding:	Annual Operating Budget
Benefits (Losses Avoided):	Prevention of loss and life
Ideas for Integration:	Hazard Mitigation Plan Emergency Operations Plan Comprehensive Plan
Timeline:	1-2 years

Structure and Infrastructure

Mitigation Action Items & Project Sheets

Table 6-5: Structure and Infrastructure Mitigation Action Items

ID #	Mitigation Action	Hazard(s)	Responsible Agency	Timeframe
SIP #1	Coordinate with local private contractors to develop mutual aid agreements for emergency snow removal, also develop a Debris Management Plan that can be implemented following a disaster occurrence.	All hazards	Homeland Security and Emergency Management	Short-term
SIP #2	Conduct a detailed vulnerability analysis on the county's infrastructure to see what losses could be incurred during a land subsidence event (in pertinent areas).	Land Subsidence	Homeland Security and Emergency Management	Short-term
***SIP #3**	Install signage for roadways (Mission Road and Riverside Drive) within inundation area of Shannondale Club Dam, ensuring that drivers are aware of dam hazard risk.	Dam Failure	Homeland Security and Emergency Management	Short-term
***SIP #4**	Conduct "Dark Grid" training and exercises. Emergency management officials can reduce vulnerability to utility interruption through training and exercises, such as the "Dark Grid" exercise, which prepare emergency responders and community leaders for a coordinated response to widespread utility interruptions.	Utility Interruptions	Homeland Security and Emergency Management	Short-term
***SIP #5**	Collaborate with the Towns and adjacent jurisdictions to conduct watershed assessment(s) to include new Atlas 14 precipitation table- rainfall intensity.	Flood	Engineering, Planning, and Zoning & Homeland Security and Emergency Management	Long-term
***SIP #6**	Establish a County Cyber Security and Risk Mitigation Plan to be implemented by county and 5 jurisdictions	Cyber Terrorism	Homeland Security and Emergency Management& Information Technology	Long-term
***SIP #7**	Provide annual cyber-security and awareness training to all County staff to reduce risk and occurrence of phishing and malware attacks	Cyber Terrorism	Homeland Security and Emergency Management	Short-term
***SIP #8**	Ensure public facilities have backup power and are properly grounded.	Thunderstorm	Homeland Security and Emergency Management	Long-term

Project 4: Snow Removal MOU and Debris Management Plan	
Action Item(s):	**SIP #1:** Coordinate with local private contractors to develop mutual aid agreements for emergency snow removal, also develop a Debris Management Plan that can be implemented following a disaster occurrence.
Project Title:	**Snow Removal MOU and Debris Management Plan**
Hazard(s):	Flood Landslide, Land Subsidence, Severe Wind & Tornado, Severe Winter Storm, Thunderstorm
Location(s):	Countywide & Municipalities
Project Discussion:	Memorandum of Understandings (MOUs) must be put in place prior to any emergency. The purpose of a MOU is to facilitate coordination and collaboration between local private contractors to develop mutual aid agreements which would minimize weather-related disruption to public safety and business throughout the county. A debris management plan establishes a framework for which the County will respond and coordinate the management and removal of debris generated by potential human-caused and natural disasters, such as extreme high wind and/or thunderstorm events. The plan also may address the potential role that state and federal agencies and other groups may assume during a debris management operation. "Guidance about Planning for Natural Disaster Debris" is available on the EPA's website; they also have several publications aimed at helping communities update their present debris management plan to address environmental issues. FEMA also offers guidance in the form of their "Public Assistance Debris Monitoring Guide" which provides guidance on monitoring debris removal operations and eligibility requirements associated with necessary work and reasonable costs to carry out a debris monitoring program.
Responsible Entity:	Jefferson County Office Of Homeland Security And Emergency Management Jefferson County Roads Department Jefferson County Solid Waste Authority Private Contractors
Partners:	Jefferson County Department of Fleet & Facilities Management Utilities Contractors West Virginia Division of Highways Landfills/Preapproved Disposal Sites
Cost Estimate:	Snow Removal MOU – Based on contract agreement with contractors. Debris Management Plan – Staff Time/Annual Operating Budget
Potential Funding:	FEMA Hazard Mitigation Grant Program (HMGP) FEMA Building Resilient Infrastructure and Communities (BRIC)
Benefits (Losses Avoided):	• Safe movement within the county for emergency responders, law enforcement, and residents. Pathway back to normalcy.

Project 4: Snow Removal MOU and Debris Management Plan	
	• A debris management plan serves to guide responsible agencies to better protect human health, comply with regulations, conserve disposal capacity, reduce injuries, and minimize or prevent environmental impacts after a hazard event that produces debris.
Ideas for Integration:	• Tabletop Exercise/Round Table with all partners regarding debris and debris management. • Secure annual contracts with vendors to support Debris Management efforts in Jefferson County.
Timeline:	Snow Removal MOU – Less than 90 days; Ongoing Debris Management Plan – 1-2 years (planning process).
High Priority	

Project 5: Dark Grid Training & Exercises	
Action Item(s):	**SIP #7:** Conduct "Dark Grid" training and exercises. Emergency management officials can reduce vulnerability to utility interruption through training and exercises, such as the "Dark Grid" exercise, which prepare emergency responders and community leaders for a coordinated response to widespread utility interruptions.
Project Title:	**Dark Grid Training & Exercises**
Hazard(s):	Utility Interruptions
Location(s):	Countywide & Municipalities
Project Discussion:	Significant power outages will have severe effects on public utilities, communication networks, emergency response centers, hospitals, government offices, and a large section of private sector; gasoline and groceries, etc. By simulating a Power Outage scenario and testing the capabilities that are related to the management of this threat we can better prepare community leaders and emergency responders for an optimal coordinated response to widespread utility interruptions. Jefferson County Office Of Homeland Security And Emergency Management should conduct a tabletop exercise initially for power outages. Once the TTX is completed, JCHSEM should plan a "Dark Grid" full scale exercise in order to prepare emergency responders and community leaders for a coordinated response to widespread utility interruptions.
Responsible Entity:	Jefferson County Office Of Homeland Security And Emergency Management
Partners:	Local government, utility owners, emergency response, hospitals, law enforcement
Cost Estimate:	Staff Time
Potential Funding:	Annual Operating Budget Upgrading Our Electric Grid and Ensuring Reliability and Resiliency
Benefits (Losses Avoided):	Enhanced capacity to respond to and recover from a power outage.
Ideas for Integration:	Emergency Operations Plan
Timeline:	1-2 years
High Priority	

Project 6: County Cyber Security	
Action Item(s):	**SIP #11:** Establish a County Cyber Security and Risk Mitigation Plan to be implemented by county and five jurisdictions. **SIP #13:** Provide annual cyber-security and awareness training to all County staff to reduce risk and occurrence of phishing and malware attacks.
Project Title:	**County Cyber Security**
Hazard(s):	Cyber Terrorism
Location(s):	Countywide & Municipalities
Project Discussion:	A cybersecurity threat mitigation strategy reduces the overall risk or impact of a cybersecurity incident by employing security policies and procedures. Preventing an attack from occurring before it can happen is imperative to public security. There are three components to cyber security risk mitigation: prevention, detection, and remediation. Before starting a risk mitigation strategy, a risk assessment should be conducted. A risk assessment is meant to find gaps within the infrastructure that is most vulnerable to exploitation before an attack. Prioritizing regular risk assessments ensures timely detection and resolution of potential weaknesses that could otherwise be exploited by outside attacks. The next step to prevention is to establish network controls to mitigate the risk of insider threats. A system of 'zero trust' is the most viable to prevent the risk of insider threats. 'Zero trust' assesses trust and user access permissions on an as needed basis depending on each person's job role. Another means of minimizing threats to security is through proactive action. Continuously monitoring network traffic by using tools that provide a comprehensive picture of an IT ecosystem at any time allows security personnel the ability to identify and deal with threats as they happen. Lastly, an incident response plan can be put in place to allow all portions of security and non-tech staff to understand what to do in the event of a data breach or attack. It has become increasingly difficult with the evolution of technology to prevent data breaches, so an incident response plan allows us to be proactively prepared. Using the Risk Mitigation Plan, annual cyber-security and awareness training should be conducted with county staff and municipal staff.
Responsible Entity:	Jefferson County Office of Information Technology
Partners:	All County Departments and Municipalities
Cost Estimate:	Staff Time
Potential Funding:	Annual Operating Budget Cyber Response and Recovery Fund

Project 6: County Cyber Security	
Benefits (Losses Avoided):	• Ensures public security, safety of sensitive data, functionality of government facilities and county resources. • Avoids electrical blackouts, failure of government equipment, breaches of security and confidential information, disruption of communication networks
Ideas for Integration:	Creating a plan to mitigate and improve the response to potential cyber threats.
Timeline:	Ongoing

Natural Systems Protection

Mitigation Action Items & Project Sheets

Table 6-6: Natural System Protection Mitigation Action Items

ID #	Mitigation Action	Hazard(s)	Responsible Agency	Timeframe
NSP #1	Review and update plans regarding stream and river setbacks and require riparian buffers of at least 35-50 feet with tree planting.	Flood	Engineering, Planning, and Zoning	Short-term
NSP #2	Consider planting various types of vegetation in landslide prone areas to increase soil stability through root length and strength and by absorbing precipitation.	Landslide	Engineering, Planning, and Zoning	Short-term
***NSP #3**	Stormwater BMP Project Assessment – County and Municipal Owned Critical Facilities. 1. Assess county and municipal-owned critical facilities and verify aerial observations related to suitability/space for stormwater BMP projects and lessening impervious surfaces at these locations. 2. Reduce the urban heat island effect, beginning with county and municipal-owned properties.	Extreme Heat, Thunderstorm, Flood	Engineering, Planning, and Zoning	Short-term
***NSP #4**	Complete a Green Infrastructure Plan for Jefferson County. Include identification of areas for bio-retention.	Flood	Engineering, Planning and Zoning	Short-term
***NSP #5**	Coordinate with USDA APHIS and other professional agricultural agencies to create early detection and prompt eradication program	Invasive Species	Engineering, Planning, and Zoning	Short-term
***NSP #6**	Coordinate efforts between Region 9 and adjacent counties to identify groundwater recharge areas and sensitive groundwater areas. Work closely with the municipalities to enforce infiltration and groundwater recharge requirements in these areas to reduce the impacts of drought.	Drought	Engineering, Planning, and Zoning	Short-term

Project 7: Green Infrastructure Plan	
Action Item(s):	**NSP #1:** Review and update plans regarding stream and river setbacks and require riparian buffers of at least 35-50 feet with tree planting. **NSP #2:** Consider planting various types of vegetation in landslide prone areas to increase soil stability through root length and strength and by absorbing precipitation. **NSP #3:** Stormwater BMP Project Assessment – County and Municipal Owned Critical Facilities. 1. Assess county and municipal-owned critical facilities and verify aerial observations related to suitability/space for stormwater BMP projects and lessening impervious surfaces at these locations. 2. Reduce the urban heat island effect, beginning with county and municipal-owned properties. **NSP #4:** Complete a Green Infrastructure Plan for Jefferson County. Include identification of areas for bio-retention. **NSP #6:** Coordinate efforts between Region 9 and adjacent counties to identify groundwater recharge areas and sensitive groundwater areas. Work closely with the municipalities to enforce infiltration and groundwater recharge requirements in these areas to reduce the impacts of drought.
Project Title:	**Green Infrastructure Plan**
Hazard(s):	Flood, Landslide, Extreme Heat, Thunderstorm, Drought
Location(s):	Countywide & Municipalities
Project Discussion:	In regard to stream and river setbacks, the current Jefferson County Zoning and Land Development Ordinance states: • *All development adjacent to a Sensitive Natural Area shall have a buffer of natural vegetation. The buffer shall meet the current Federal standard except as required.* • *Any development, other than residential development, which takes place after the adoption of this Ordinance must maintain a five hundred (500) foot buffer strip from the existing banks of the Potomac and Shenandoah Rivers.* The ordinance could be modified to state that a 35-50 feet riparian buffer be required along all waterways. A riparian buffer is a natural strip of vegetation next to a stream or a creek that protects it from pollution. A riparian buffer also helps protect sources of drinking water. In addition, a riparian buffer utilized within landslide prone areas can serve to prevent soil instability. Trees such as red bud, service berry and many of the fruit bearing trees are appropriate for riparian areas as well as a variety of shrubs such as silky dogwood, red osier dogwood, meadowsweet, and black haw viburnum. Both of which would work to anchor soils and protect waterways. Stormwater management reduces or eliminates the negative impacts of stormwater runoff. Today, stormwater management includes controlling flooding, reducing erosion, and improving water quality. This can be accomplished by implementing what are known as Best Management

Project 7: Green Infrastructure Plan	
	Practices (BMPs). BMPs are structural, vegetative, or managerial practices used to treat, prevent, or reduce water pollution. As part of the Plan Update, critical facilities were assessed for vulnerability and capabilities. The listing of these facilities are included in Appendix F. The initial step in the analysis is to examine critical facility parcels using satellite imagery to determine if the parcel has room for stormwater BMP projects such as planting projects and mitigating impervious surface projects. The next step in this process would be to verify these initial observations and determine if potential projects would be feasible at the recommended sites. An in-person assessment of each city-owned facility location would help determine site-specific suitability for these types of projects. If a site is determined to have space and be suitable for stormwater BMPs such as planting projects and mitigation of impervious surfaces, then some considerations are as follows: • What is the impact that these projects would have on current conditions at the site? And do the benefits outweigh the costs? • What level of coordination is possible with existing community groups for proposed planting projects? Additionally, planting projects, particularly tree planting projects, could help reduce the urban heat island effect. Properties should be examined for: • Increased tree plantings around buildings to shade parking lots and along public rights-of-way. • Encouraging installation of green roofs, which provide shade and remove heat from the roof surface and surrounding air. • When replacing or upgrading roofs at these locations, use cool roofing products that reflect sunlight and heat away from the building. Green infrastructure collects stormwater from streets, sidewalks, and other hard surfaces before it can enter the sewer system or cause local flooding. By reducing the amount of stormwater that flows into the sewer system, green infrastructure helps prevent sewer overflows and improves the health of local waterways. Natural groundwater recharge occurs as precipitation falls on the land surface, infiltrates into soils, and moves through pore spaces down to the water table. Natural recharge also can occur as surface-water leakage from rivers, streams, lakes, and wetlands. Widespread development has created a critical need to plan for and regulate possible environmental impacts. A green infrastructure plan is a strategically planned network of natural and semi-natural areas with other environmental features, designed and managed to deliver a wide range of ecosystem services, while also enhancing biodiversity.

Project 7: Green Infrastructure Plan	
	Incorporating all the elements above into the green infrastructure plan would assist in accomplishing the actions listed above.
Responsible Entity:	Jefferson County Department Of Engineering, Planning, And Zoning Jefferson County Department of Public Works Jefferson County Parks & Recreation
Partners:	West Virginia Rivers Coalition Conservations Districts United States Geological Survey (USGS) United States Department of Agriculture (USDA) Department of Natural Resources (DNR) Development Authority WVU Extension Shepherd University Developers Utility Companies
Cost Estimate:	Staff Time/Annual Budget for all actions Impervious surfaces mitigation projects: location and size dependent. Tree planting projects: the average cost of tree planting is $300 but can vary depending upon the type and location. Green roof cost: national average cost is between $15 and $50 per square foot. Green Infrastructure Planning Grant - $30,000-50,000
Potential Funding:	Stormwater BMP Project Assessment - FEMA Hazard Mitigation Grant Program (Flood Risk Reduction), Building Resilient Infrastructure and Communities (BRIC) Community Block Development Grant (CDBG) Green Infrastructure Plan - US Environmental Protection Agency's Section 319 Nonpoint Source Program 12 and the Urban Waters Small Grants Program (UWSG) National Estuary Program Grants
Benefits (Losses Avoided):	• Addresses the impacts of extreme heat • Filter stormwater • Mitigate summer air temperatures • Increase planting reduce harmful pollutants • Greener spaces have physical and mental health benefits to residents • Maintenance shortfalls for BMPs
Ideas for Integration:	• MS4 Reporting • Tree mitigation issues • Current tree canopy goals • Comprehensive Plan – County and Municipal
Timeline:	1 year – Initial Planning Phase 2-3 years – Final Plan & Implementation

Project 8: Invasive Species Detection & Eradication	
Action Item(s):	**NSP #5:** Coordinate with USDA Animal and Plant Health Inspection Service (APHIS), and other professional agricultural agencies to create early detection and a prompt eradication program.
Project Title:	**Invasive Species Detection & Eradication**
Hazard(s):	Invasive Species
Location(s):	County & Municipalities
Project Discussion:	According to USDA APHIS, nonnative species that cause harm are collectively known as invasive species. Human activity such as trade, travel and tourism have all increased substantially, increasing the speed and volume of species movement to unprecedented levels. Invasive species are often unintended hitchhikers on cargo and vehicles. Still more species are deliberately introduced as pets, ornamental plants, crops, food, or for recreation, pest control or other purposes. USDA's National Invasive Species Information Center has developed the Early Detection and Rapid Response (EDRR). The EDRR is a coordinated set of actions to find and eradicate new and emerging invasive species in a specific location before they can spread and cause harm. By researching and mapping trends in the migration of invasive and native species, practices, and regulations to prevent invasive species while supporting native species can be developed. Early detection is one of the most cost-effective and ecologically viable methods for controlling invasive species. Early interventions are more likely to be successful, while long-term management typically have higher association costs. The USDA's Reporting website provides information and resources for how and where to report suspected invasive species. The USDA's Take Action Against Invasive Species also provides information on how citizens can help to prevent and control invasive species.
Responsible Entity:	Jefferson County Department Of Engineering, Planning, And Zoning
Partners:	WVU Extension Shepherd University USDA DNR Conservation Districts Farmland Protection Board
Cost Estimate:	Staff Time
Potential Funding:	Annual Operating Budget National Estuary Program Grants

Project 8: Invasive Species Detection & Eradication	
Benefits (Losses Avoided):	Biodiversity and ecosystem benefits.
Ideas for Integration:	List animals to monitor and map (background research); find a PHD student to lead
Timeline:	Ongoing

Education & Awareness Program

Mitigation Action Items & Project Sheets

Table 6-7: Education & Awareness Program Mitigation Action Items

ID #	Mitigation Action	Hazard(s)	Responsible Agency	Timeframe
EAP #1	Continue to work with non-governmental organizations (youth services, professional, religious) to promote mitigation education and awareness.	All hazards	Homeland Security and Emergency Management	Short-term
EAP #2	Create materials that are targeted towards tourist populations. Work with the Jefferson County Convention and Visitors Bureau, the US Park Service, and others to alert tourists to potential natural hazard areas and what to do if a natural or man-made hazard occurs during their visit to Jefferson County.	All hazards	Homeland Security and Emergency Management & Parks and Recreation	Long-term
EAP #3	Develop and deliver information to all county residents through community groups, publications town meetings, training seminars and the county website to promote preparedness through preparation and provide hazard related information that is easily accessible. The plan is to expand and update the website as needed and as appropriate in a timely manner to benefit all County residents. Website updates should include Increase education and awareness about shelter-in-place facts, earthquake awareness, including measures to take to safe-proof homes and proper procedures to take to safeguard against and prepare for winter storms. Send information to all municipalities for posting and/or dissemination.	All hazards	Homeland Security and Emergency Management	Short-term
EAP #4	Continue to work with the Jefferson County school system to promote hazard mitigation education and awareness and discuss ways to better integrate mitigation into the curriculum. Implement the Pillowcase Project in schools, libraries to teach children about disaster preparedness.	All hazards	Homeland Security and Emergency Management	Short-term
EAP #5	Form a partnership amongst county agencies to conduct periodic exercises for all hazards. Primary focus on school bus accident and MCI.	All hazards	Homeland Security and Emergency Management	Short-term
EAP #6	Conduct public awareness and education campaigns to target people living near dams and the implications of constructing dams.	Dam Failure	Homeland Security and Emergency Management	Long-term
EAP #7	Educate the public on the benefits of purchasing flood insurance and increase flood insurance users in Jefferson County. Create displays for use at public events (health fair, public awareness day, and county fair). This display would include pictures and information, such as that contained in FEMA's Retrofitting for Homeowners Guide, Elevating Your Flood Prone Home, Elevating Residential Structures, and information on the NFIP.	Flood	Engineering, Planning, and Zoning & Homeland Security and Emergency Management	Short-term

EAP #8	Develop and distribute educational materials concerning erosion and sediment control and slope stabilization to assets located in landslide prone areas, including the proper installation of erosion control blankets, turf reinforcement mats, silt fences, filter bags, channel dikes and dams and turbidity barriers.	Landslide, Flooding	Engineering, Planning, and Zoning & Homeland Security and Emergency Management	Long-term
EAP #9	Coordinate with the National Weather Service (NWS) to warn residents of impending severe wind, tornado, thunderstorm, hailstorm conditions.	Severe Thunderstorm	Homeland Security and Emergency Management	Short-term
EAP #10	Research and implement successful programs for preventing sexual assault on college campuses.	Civil Disturbance	Homeland Security and Emergency Management	Short-term
EAP #11	Meet with groups of potential volunteers to attempt to increase the number of trained responders. Groups will include all county fire departments, doctors, nurses and EMS personnel who may become first responders in a bio-terrorism event.	Civil Disturbance, Terrorism	Homeland Security and Emergency Management	Long-term
EAP #12	Encourage residents and businesses to maintain their property in or near forested areas (including short grass; thinned trees and removal of low hanging branches, cleaning of dead or dry leaves, needles, twigs, etc.), and to create a buffer zone (defensible space) between structures and adjacent forests.	Wild and Urban Fires	Homeland Security and Emergency Management & Engineering, Planning, and Zoning	Long-term
EAP #13	Create displays for children's programs that teach fire safety. Examples of information to be used would be similar to that on the FEMA for kids CD and/or the Sparky Fire Safety Program.	Wild and Urban Fires	Homeland Security and Emergency Management	Short-term
*EAP #14	Encourage the purchase of flood insurance. Specifically targeting properties outside of the mapped 1-percent annual chance flood zone also known as the Special Flood Hazard Area (SFHA). Use messaging centered on climate change and resulting flooding that is occurring outside of the SFHA.	Flood	Engineering, Planning, and Zoning & Homeland Security and Emergency Management	Short-term
*EAP #15	Develop 5-year training plan specific to Incident Management position-specific training.	All hazards	Homeland Security and Emergency Management	Short-term
*EAP #16	Target 65 and older population on fire safety.	Wild and Urban Fires	Homeland Security and Emergency Management	Short-term

*EAP #17	Educate the public on proper use of generators during a power outage. Carbon monoxide poisoning can be a major issue if generators, kerosene heaters, and propane heaters are used inappropriately.	Utility Interruptions	Homeland Security and Emergency Management	Short-term
*EAP #18	Utilize pamphlets and articles about the warning signs and the potential damages of thunderstorms and lightning strikes.	Thunderstorm	Homeland Security and Emergency Management	Short-term
*EAP #19	Create an informational brochure and/or digital media to inform/educate local farmers and residents on the potential effects of an infestation.	Invasive Species	Homeland Security and Emergency Management	Short-term
*EAP #20	Increase awareness of cyber threats and continue to provide public/private sector cyber security outreach.	Cyber Terrorism	Information Technology & Homeland Security and Emergency Management	Long-term

Project 9: National Flood Insurance Program	
Action Item(s):	**EPA #7:** Educate the public on the benefits of purchasing flood insurance and increase flood insurance users in Jefferson County. Create displays for use at public events (health fair, public awareness day, and county fair). This display would include pictures and information, such as that contained in FEMA's Retrofitting for Homeowners Guide, Elevating Your Flood Prone Home, Elevating Residential Structures, and information on the NFIP. **EPA #14:** Encourage the purchase of flood insurance. Specifically targeting properties outside of the mapped 1-percent annual chance flood zone also known as the Special Flood Hazard Area (SFHA). Use messaging centered on climate change and resulting flooding that is occurring outside of the SFHA.
Project Title:	**National Flood Insurance Program**
Hazard(s):	Flooding
Location(s):	Areas prone to flooding within the County.
Project Discussion:	The National Flood Insurance Program (NFIP) is a FEMA managed program delivered to the public by a network of more than fifty insurance companies and NFIP Direct. The program is built to provide insurance in an effort to help reduce the socio-economic impact of floods. When just one inch of water in a home can cost more than $25,000 in damage, flood insurance can be the difference between recovery and financial devastation. As of April 1, 2023, FEMA has fully implemented the National Flood Insurance Program's (NFIP) pricing methodology called Risk Rating 2.0. The methodology leverages industry best practices and innovative technology to enable FEMA to deliver rates that are actuarily sound, equitable, easier to understand and better reflect a property's flood risk.

	A major part of FEMA's NFIP transformation is Risk Rating 2.0, which fundamentally changes the way FEMA prices insurance and determines an individual property's flood risk. Risk Rating 2.0 focuses on equity in action, with individuals no longer paying more than their share in flood insurance premiums based on the value of their homes. An estimated two-thirds of policyholders with older pre-FIRM homes will see a premium decrease. With Risk Rating 2.0, FEMA now has the capability and tools to address rating disparities by incorporating more flood risk variables. These include flood frequency, multiple flood types—river overflow, storm surge, coastal erosion, and heavy rainfall and distance to a water source along with property characteristics such as elevation and the cost to rebuild. Under the old rating methodology policy holders had seen an average annual increase of just over 11% or $8 per month. If Risk Rating 2.0 is not implemented, 100% of NFIP policyholders will continue to see rate increases year after year. Premiums are ultimately driven by variables that an individual policyholder can control. Upon receipt of a premium, a policyholder can change the parameters (such as the level of coverage limits, deductibles, and other additional data or take a mitigation action) that impact their property's unique rate. Review the Risk Rating 2.0 State Profiles interactive map: Risk Rating 2.0: Projected Premium Changes by Zip Code - All NFIP Policies to view projected premium changes for all NFIP policyholders by zip code. The data in this dashboard are FEMA's analysis of NFIP policyholder data. The analysis considers only the differences between May 2020 premiums (based on the old rating system) and October 2021 premiums (Risk Rating 2.0); the analysis does not consider typical premium increases that might have occurred without Risk Rating 2.0. The projected premium changes displayed in the interactive map could be used to illustrate the policy savings from using Risk Rating 2.0. In addition, FEMA's Discount Explanation Guide and Rate Explanation Guide could be reviewed with policy holders. Also Risk Rating 2.0: Equity in Action is available for agents and provides answers to frequently asked questions and shareable marketing resources to help clients understand their property's unique flood risk. Partner with FEMA Region 3 and local Insurance Agencies to hold a workshop to discuss Risk 2.0, zip code level data on flood insurance policies, and mitigation practices which reduce risk and insurance rates.
Responsible Entity:	Jefferson County Office of Planning & Zoning Certified Floodplain Manager
Partners:	FEMA Region 3 Insurance Agencies Jefferson County Office Of Homeland Security And Emergency Management

Cost Estimate:	Dependent on the method of outreach, training opportunities, and the type of workshops conducted to discuss Risk Rating 2.0.
Potential Funding:	Homeland Security Grants FEMA Building Resilient Infrastructure and Communities (BRIC) Flood Mitigation Assistance Grant Program (FMA)
Benefits (Losses Avoided):	• Increases and helps to retain the amount of flood insurance policyholders in the County • Increases resilience to flood hazards • Outreach activities can increase the County's CRS rating, which in turn lowers premiums.
Ideas for Integration:	• Collaborate education and outreach efforts with local and regional conferences, including for topics such as stormwater management and realtors/flood insurance. • Planning documents
Timeline:	Ongoing

Project 10: Generator Safety Tips	
Action Item(s):	**EPA #17:** Educate the public on proper use of generators during a power outage. Carbon monoxide poisoning can be a major issue if generators, kerosene heaters, and propane heaters are used inappropriately.
Project Title:	**Generator Safety Tips**
Hazard(s):	Utility Interruptions
Location(s):	Countywide & Municipalities
Project Discussion:	Power outages can be expected at any time of year, on a nearly monthly basis. Iced power lines; falling tree limbs due to ice, wind, or lightning strikes; and vehicle incidents damaging power lines, or their support poles can all be reasons for power outages. OSHA's Fact Sheet about portable generators states the following hazards are associated with generators: • Shocks and electrocution from improper use of power or accidentally energizing other electrical systems. • Carbon monoxide from a generator's exhaust. • Fires from improperly refueling a generator or inappropriately storing the fuel for a generator. • Noise and vibration hazards. The American Red Cross provides information on How to Choose a Generator, Using a Generator at Home, and How to Prevent Carbon Monoxide (CO) Poisoning When Using a Generator. For public awareness, fire departments could provide this information on flyers or post on social media.

	Generator safety tips such as those provided by American Red Cross's Safe Generator Use webpage could be disseminated as well.
Responsible Entity:	Fire Departments Public Relations/Public Information Officer
Partners:	Jefferson County Office Of Homeland Security And Emergency Management
Cost Estimate:	Staff Time Material Cost Advertisement Cost
Potential Funding:	Annual Operating Budget
Benefits (Losses Avoided):	To keep operations running and maintain continuity within organizations. Educating the public on generator safety helps prevent property damage and loss of life.
Ideas for Integration:	Fire Department Outreach Public Announcement Advertisements
Timeline:	Ongoing
Project 11: Cyber Preparedness	
Action Item(s):	**EPA #22:** Increase awareness of cyber threats and continue to provide public/private sector cyber security outreach.
Project Title:	**Cyber Preparedness**
Hazard(s):	Cyber Terrorism
Location(s):	Countywide & Municipalities
Project Discussion:	Similar to traditional response to a natural disaster, communities must also be ready to respond to a "cyber disaster" as a cyber-attack can trigger physical consequences. These physical consequences could result in significant impacts to governments, businesses, and individuals. Cyber terrorism is the convergence of cyberspace and terrorism. It refers to unlawful attacks and threats of attacks against computerized systems, networks, and the information stored within. Cyber terrorism is done to intimidate or coerce a government or its people to further political or social objectives. It is important to be prepared for such attacks and to have the best possible preventative security measures in place. To know what to look for by studying prior history of bordering counties that have dealt with such attacks is a good start. Knowing what can be done in order to prevent the possibility of a breach in cyber security through reviewing past events, surveying, and assessing our current capabilities is key to mitigating potential future attacks. Putting a plan of action in place with this in mind helps keep servers secure and out of reach to those that mean harm.

	FEMA's Be Prepared For A Cyberattack fact sheet could be distributed to inform the public and private section ways to prevent a cyberattack, how to limit damage during an attack, and how to file a report after an attack. Furthermore, FEMA's Preparedness Community provides additional information on cyberattacks including protective actions. The link to FEMA Preparedness Community: Cyberattack could be disseminated with the fact sheet.
Responsible Entity:	Jefferson County Office of Information Technology
Partners:	Jefferson County Office Of Homeland Security And Emergency Management
Cost Estimate:	Staff Time Material Cost Advertisement Cost
Potential Funding:	Annual Operating Budget State and Local Cybersecurity Grant Program (SLCGP) Cyber Response and Recovery Fund
Benefits (Losses Avoided):	To avoid loss of data, control, and other IT services.
Ideas for Integration:	Communications between agencies and quarterly meetings amongst different agencies.
Timeline:	Ongoing

Emergency Services & Public Health

Mitigation Action Items & Project Sheets

Table 6-8: Emergency Services & Public Health Mitigation Action Items

ID #	Mitigation Action	Hazard(s)	Responsible Agency	Timeframe
ES/PH #1	Conduct back-up power surveys for all critical infrastructure and an assessment of applicability of renewable energy sources as a potential backup power supply.	All hazards	Homeland Security and Emergency Management	Long-term
ES/PH #2	Pre-identify caregivers or volunteers to partner them with vulnerable populations to ensure vulnerable populations are taken care of before, during, and after emergencies.	All hazards	Homeland Security and Emergency Management	Long-term
ES/PH #3	Identify strengths and resources within the organization that can be utilized to implement mutual aid during emergencies. Create mutual aid agreements with identified partners.	All hazards	Homeland Security and Emergency Management	Long-term
ES/PH #4	Make arrangements or otherwise establish mass morgue facilities to be used following potential mass casualty events.	All hazards	Homeland Security and Emergency Management	Long-term
ES/PH #5	Pre-wire critical facilities for generators and provide backup generators for all critical facilities including fire departments, water/wastewater treatment plants, and designated shelters that do not yet have them.	All hazards	Homeland Security and Emergency Management	Short-term
ES/PH #6	Provide information about local, regional, state, and federal training opportunities to fire departments, EMS, ambulance services, and other emergency responders and continue existing education and training efforts of first responders and emergency personnel.	All hazards	Homeland Security and Emergency Management	Short-term
ES/PH #7	Teach Community Emergency Response Team (CERT) classes in Jefferson County. Work with municipalities to host classes within their jurisdiction.	All hazards	Health Department & Homeland Security and Emergency Management	Short-term
ES/PH #8	Ensure the public is aware of shelter locations in times of need through outreach campaigns that focus on shelter education and develop adequate emergency shelter and evacuation plans for animals (domestic pets, livestock, and wildlife). Establish a committee representative of all areas of the county that will include veterinarians, pet store owners, the Humane Society, animal shelters, the WVU Extension Service and other interested parties to work on animal -specific evacuation and sheltering needs.	All hazards	Health Department & Homeland Security and Emergency Management	Short-term
ES/PH #9	Train personnel and create an in-county hazmat team to reduce the use of out-of-county resources and increase in-county capabilities.	Hazmat	Homeland Security and Emergency Management	Short-term

ES/PH #10	Apply for Hazardous Materials Emergency Preparedness (HMEP) grant from WVDHSEM to finance the development of a Commodity Flow Study to determine what hazardous materials are used, stored, and shipped through the county.	Hazmat	Homeland Security and Emergency Management	Short-term
ES/PH #11	Form a partnership of agencies to implement an active shooter training program to be delivered to houses of worship, county agencies, volunteer organizations, etc.	Civil Disturbance	Homeland Security and Emergency Management	Short-term
*ES/PH #12	Work with dam operators/owners to conduct dam safety drill/exercise over the next five years.	Dam Failure	Homeland Security and Emergency Management	Short-term
*ES/PH #13	Complete new Hazardous Materials Response Plan.	Hazmat	Homeland Security and Emergency Management	Short-term
*ES/PH #14	Offer specialized training specific to Use-of-Force, Crowd Control, and Civil Disturbances.	Civil Disturbance, Terrorism	Homeland Security and Emergency Management	Short-term
*ES/PH #15	Complete an After-Action Report and Improvement Plan (AAR/IP) on the COVID-19 Incident.	Public Health & Pandemic	Health Department	Short-term
*ES/PH #16	Complete specific training to include Naloxone administration, Fit testing for (PPE), a pandemic influenza exercise and an anthrax exercise in the next five years.	Public Health & Pandemic	Health Department & Homeland Security and Emergency Management	Short-term
*ES/PH #17	Review Situational Awareness and Reporting tools for All-Hazards used for incident operations that lend themselves to the integration of community lifelines construct. Identify tools or modify situational reporting to incorporate lifelines. Incorporating the lifelines primarily impacts how incident information is organized and reported during response. The lifelines help characterize an incident, i.e., what is happening and why it is important.	All hazards	Homeland Security and Emergency Management	Short-term
*ES/PH #18	Obtain mobile message sign boards for strategic deployment use during various hazard incidents and for targeted public messaging.	All hazards	Homeland Security and Emergency Management	Short-term

Project 12: Optimus Prime Power	
Action Item(s):	**ES/PH #1:** Conduct back-up power surveys for all critical infrastructure and an assessment of applicability of renewable energy sources as a potential backup power supply. **ES/PH #5:** Pre-wire critical facilities for generators and provide backup generators for all critical facilities including fire departments, water/wastewater treatment plants, and designated shelters that do not yet have them.
Project Title:	**Optimus Prime Power**
Hazard(s):	All Hazards
Location(s):	Countywide
Project Discussion:	During significant storm events, many small communities are isolated without basic services such as electric, and/or water and sewer services. It is necessary for essential facilities, such as Town Halls or Fire Stations, to have reliable sources of sustained electrical power to achieve continued operations for citizens to seek shelter during these events. For optimal preparedness we can inventory vulnerable communities and inventory existing facilities that could function as resilience centers; example: Town Halls, Fire Stations, or schools. If said facilities are lacking in backup generators, we can provide these assets to keep our critical facilities active in times of need. Also, an annual survey/reminder to facilities for generator maintenance serves to prevent potential issues and maintains quality. The critical facilities listing provided in Appendix F should be assessed to determine which facilities currently have generators. Next a listing of facilities lacking back-up power should be prioritized. All facilities should be reviewed and conclude if pre-wiring is necessary.
Responsible Entity:	Jefferson County Department Of Fleet And Facilities Management Jefferson County Office Of Homeland Security And Emergency Management
Partners:	Electrical Contractors FirstEnergy
Cost Estimate:	$500,000
Potential Funding:	FEMA Building Resilient Infrastructure and Communities (BRIC) FEMA Hazard Mitigation Grant Program (HMGP)
Benefits (Losses Avoided):	Safety, security, health, and wellness of community.
Ideas for Integration:	Facilities Maintenance Plans
Timeline:	Ongoing

Project 13: Citizen Preparedness Training and Outreach	
Action Item(s):	**ES/PH #7:** Teach Community Emergency Response Team (CERT) classes in Jefferson County. Work with municipalities to host classes within their jurisdiction. **ES/PH #8:** Ensure the public is aware of shelter locations in times of need through outreach campaigns that focus on shelter education and develop adequate emergency shelter and evacuation plans for animals (domestic pets, livestock, and wildlife). Establish a committee representative of all areas of the county that will include veterinarians, pet store owners, the Humane Society, animal shelters, the WVU Extension Service and other interested parties to work on animal -specific evacuation and sheltering needs. **ES/PH #16:** Complete specific training to include Naloxone administration, Fit testing for (PPE), a pandemic influenza exercise and an anthrax exercise in the next five years.
Project Title:	**Citizen Preparedness Training and Outreach**
Hazard(s):	All Hazards
Location(s):	Countywide & Municipalities
Project Discussion:	The Community Emergency Response Team (CERT) program educates people about disaster preparedness for hazards that may impact their area and trains citizens in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. By working with municipalities to teach CERT classes within their jurisdictions, this could better prepare the public for hazards that threaten their homes and communities. It is important to establish and communicate to the public an adequate emergency action plan in times of need. This includes emergency shelter and/or evacuation plans for domestic pets, livestock, and wildlife. Appointing a committee representative from interested parties which may include veterinarians, pet store owners, the Humane Society, animal shelters, and the WVU Extension Service, to serve in communicating specific evacuation and sheltering needs. Participants of the CERT program could assist in shelter outreach campaigns. Naloxone is a synthetic drug, similar to morphine, which blocks opiate receptors in the nervous system. By training citizens in the ability to recognize the signs of an opioid overdose and administer the opioid overdose reversal drug naloxone, the casualties caused by the opioid crisis could diminish. Narcan training could be incorporated into the CERT training. Citizens could promote awareness through social media using slogans such as: **Prepare or Die, Narcan or Narcan't.** According to OSHA, fit testing for PPE is to be conducted at a minimum annually to ensure the effectiveness of PPE and the safety of these individuals

Project 13: Citizen Preparedness Training and Outreach	
	using said equipment. Proper PPE equipment for healthcare staff delivering patient care in the event of an outbreak such as influenza is extremely important. Training for an influenza and/or anthrax outbreak is vital to public safety as well. Exercises involving public education regarding these outbreaks better prepares us for the potential of such a disaster.
Responsible Entity:	Jefferson County Health Department Jefferson County Homeland Security and Emergency Management
Partners:	American Red Cross Local Emergency Planning Committee (LEPC)
Cost Estimate:	< $1,000
Potential Funding:	Hazardous Materials Emergency Planning (HMEP) Grant Program
Benefits (Losses Avoided):	Expanding public knowledge in first aid.
Ideas for Integration:	Pre-identify caregivers or volunteers to partner them with vulnerable populations to ensure vulnerable populations are taken care of before, during, and after emergencies.
Timeline:	Ongoing
High Priority	

Project 14: Hazard Materials Response Plan and Training	
Action Item(s):	**ES/PH #9:** Train personnel and create an in-county hazmat team to reduce the use of out-of-county resources and increase in-county capabilities. **ES/PH #13:** Complete new Hazardous Materials Response Plan.
Project Title:	**Hazard Materials Response Plan and Training**
Hazard(s):	Hazardous Materials Incident
Location(s):	Jefferson County
Project Discussion:	By providing first responders with the training and optimal equipment to manage hazardous materials and dangerous goods we can ensure the health and safety of our workers, workplaces, environments, and overall public health. First responders would have the ability to isolate, identify, and contain incidents before they have the opportunity to become a public health issue. Jefferson County could work with the West Virginia Emergency Management for hazmat training. According to West Virginia Emergency Management, WV DHSEM has entered into an agreement with WVU Fire Service Extension to provide basic and advanced hazardous material courses. In addition to providing our first responders with the necessary tools to properly deal with hazardous materials Jefferson County can implement a Hazardous Materials Emergency Response Plan for optimal preparedness.
Responsible Entity:	Jefferson County Homeland Security and Emergency Management Local Emergency Planning Committee (LEPC)
Partners:	West Virginia Emergency Management West Virginia Department of Transportation-Division of Highway United States Environmental Protection Agency State of West Virginia, Department of Environmental Protection (DEP) Mutual Aid: Berkeley, Washington, Loudon.
Cost Estimate:	$30,000
Potential Funding:	Hazardous Materials Emergency Planning (HMEP) Grant Program Consolidated Rail Infrastructure and Safety Improvement Grants Natural Gas Distribution Infrastructure Safety and Modernization Grants
Benefits (Losses Avoided):	Decreased response time, increased regional response.
Ideas for Integration:	Commodity Flow Study Emergency Operations Plan
Timeline:	1-3 years
High Priority	

Municipal

Mitigation Action Items

As part of the Mitigation Workshop held on July 26, 2023, municipal representatives worked together as a group to identify municipal specific action items. The following actions were selected as municipal action items for this plan update, Table 6-9. *Note, action items are inclusive of all municipalities unless otherwise specified within the mitigation action.* Table 6-10 includes Municipal Priority Mitigation Action Items.

Table 6-9: Municipal Mitigation Action Items

ID #	Municipal Mitigation Action	Hazard(s)
MUN #1	Consider joining FEMA's Community Rating System (CRS) to decrease the cost of flood insurance for residents within municipalities. Partner with the County to complete activities that will result in the obtainment of CRS points.	Flood
MUN #2	Develop Continuity of Operations Plan to ensure government services are provided prior, during, and after hazard incidents.	All hazards
MUN #3	Install generators and/or transfer switch for mobile generators, as applicable at City/Town Halls.	Utility Interruptions
MUN #4	Obtain mobile message sign boards for strategic deployment use during various hazard incidents and for targeted public messaging.	All hazards
MUN #5	Conduct back-up power surveys for all critical infrastructure and an assessment of applicability of renewable energy sources as a potential backup power supply.	All hazards
MUN #6	Review all existing regulations, comprehensive plans, capital improvement plan (CIP) and Emergency Operation Plan (EOP) to ensure that designated growth areas are not in hazard areas. Review existing regulations to ensure adequacy in reducing the amount of future development in identified hazard areas.	All hazards
MUN #7	Pre-wire critical facilities for generators and provide backup generators for all critical facilities including fire departments, water/wastewater treatment plants, and designated shelters that do not yet have them.	All hazards
MUN #8	Teach Community Emergency Response Team (CERT) classes in Jefferson County. Work with municipalities to host classes within their jurisdiction.	All hazards
MUN #9	Create materials that are targeted towards tourist populations. Work with the Jefferson County Convention and Visitors Bureau, the US Park Service, and others to alert tourists to potential natural hazard areas and what to do if a natural or man-made hazard occurs during their visit to Jefferson County.	All hazards
MUN #10	Develop and deliver information to all county residents through community groups, publications town meetings, training seminars and the county website to promote preparedness through preparation and provide hazard related information that is easily accessible. The plan is to expand and update the website as needed and as appropriate in a timely manner to benefit all County residents. Website updates should include Increase education and awareness about shelter-in-place facts, earthquake awareness, including measures to take to safe-proof homes and proper procedures to take to safeguard against and prepare for winter storms. Send information to all municipalities for posting and/or dissemination.	All hazards
MUN #11	Form a partnership amongst county agencies to conduct periodic exercises for all hazards. Primary focus on school bus accident and MCI.	All hazards
MUN #12	Coordinate with local private contractors to develop mutual aid agreements for emergency snow removal, also develop a Debris Management Plan that can be implemented following a disaster occurrence.	All hazards

ID #	Municipal Mitigation Action	Hazard(s)
MUN #13	Install Uninterruptible Power Supply (UPS) systems on traffic signals.	All hazards
MUN #14	Install sensory systems that immediately shut off the flow of gas to critical infrastructure throughout the county as soon as earth movements are felt.	Earthquake, Landslide & Land Subsidence, Karst/Sink Holes
MUN #15	Educate the public on the benefits of purchasing flood insurance and increase flood insurance users in Jefferson County. Create displays for use at public events (health fair, public awareness day, and county fair). This display would include pictures and information, such as that contained in FEMA's Retrofitting for Homeowners Guide, Elevating Your Flood Prone Home, Elevating Residential Structures, and information on the NFIP.	Flood
MUN #16	Strengthen Community Rating System (CRS) program to enhance rating by undertaking outreach and training efforts such as: distribute letters to all property owners in the county regarding potential flood hazards as required for participation in the CRS. and provide training to municipalities on the CRS program and encourage them to participate.	Flood
MUN #17	Consider implementing open space designations in landslide prone areas, to keep those areas undeveloped.	Landslide
MUN #18	Develop and distribute educational materials concerning erosion and sediment control and slope stabilization to assets located in landslide prone areas, including the proper installation of erosion control blankets, turf reinforcement mats, silt fences, filter bags, channel dikes and dams and turbidity barriers.	Landslide, Flooding
MUN #19	Form a partnership of agencies to implement an active shooter training program to be delivered to houses of worship, county agencies, volunteer organizations, etc.	Civil Disturbance
MUN #20	Meet with groups of potential volunteers to attempt to increase the number of trained responders. Groups will include all county fire departments, doctors, nurses, and EMS personnel who may become first responders in a bio-terrorism event.	Civil Disturbance, Terrorism
MUN #21	Consider passing ordinances to prioritize or control water use, particularly for emergency situations such as firefighting.	Wild and Urban Fires
MUN #22	Encourage the purchase of flood insurance. Specifically targeting properties outside of the mapped 1-percent annual chance flood zone also known as the Special Flood Hazard Area (SFHA). Use messaging centered on climate change and resulting flooding that is occurring outside of the SFHA.	Flood
MUN #23	Offer specialized training specific to Use-of-Force, Crowd Control, and Civil Disturbances.	Civil Disturbance, Terrorism
MUN #24	Target 65 and older population on fire safety.	Wild and Urban Fires
MUN #25	Conduct "Dark Grid" training and exercises. Emergency management officials can reduce vulnerability to utility interruption through training and exercises, such as the "Dark Grid" exercise, which prepare emergency responders and community leaders for a coordinated response to widespread utility interruptions.	Utility Interruptions

ID #	Municipal Mitigation Action	Hazard(s)
MUN #26	Educate the public on proper use of generators during a power outage. Carbon monoxide poisoning can be a major issue if generators, kerosene heaters, and propane heaters are used inappropriately.	Utility Interruptions
MUN #27	Complete an After-Action Report and Improvement Plan (AAR/IP) on the COVID-19 Incident.	Public Health & Pandemic
MUN #28	Collaborate with the Towns and adjacent jurisdictions to conduct watershed assessment(s) to include new Atlas 14 precipitation table- rainfall intensity.	Flood
MUN #29	Integration of hazard planning into both the County and Municipal planning frameworks, which will lead to development patterns and redevelopment that decreases hazard risk and vulnerability. To achieve and facilitate integration, Jefferson County and the Towns should review how planning documents, policies, codes, and programs are maintained and implemented, and the roles of people, agencies, and departments in evaluating and updating them. This depth of review will enable the County and the Towns to identify opportunities for plan integration, resulting in effective ways to reduce hazard vulnerability. Compare areas slated for growth including redevelopment with hazard risk areas.	All hazards
MUN #30	Develop an Extreme Heat Emergency Plan identifying triggers, surveillance, and actions.	Extreme Temperature
MUN #31	Identify public and/or critical facilities that lack grounding/surge protection devices.	Utility Interruptions
MUN #32	2023 Mitigation Strategies should be reviewed in reference to the Capital Improvement Plan for integration purposes. Projects that reduce risk and vulnerability to the citizens of Jefferson County should be given prioritization.	All hazards
MUN #33	Stormwater BMP Project Assessment – County and Municipal Owned Critical Facilities. 1. Assess county and municipal-owned critical facilities and verify aerial observations related to suitability/space for stormwater BMP projects and lessening impervious surfaces at these locations. 2. Reduce the urban heat island effect, beginning with county and municipal-owned properties.	Extreme Heat, Thunderstorm, Flood
MUN #34	Complete a Green Infrastructure Plan for Jefferson County. Include identification of areas for bio-retention.	Flood
MUN #35	Adjust construction regulations to include areas where mapped and verified karst terrain exists, double layers of silt fencing may be implemented, as well as hay bales or core logs along the periphery of the standard workspace area to prevent outward migration of silt and reduce runoff velocity.	Karst
MUN #36	Increase awareness of cyber threats and continue to provide public/private sector cyber security outreach	Cyber Terrorism
MUN #37	Establish a County Cyber Security and Risk Mitigation Plan to be implemented by county and 5 jurisdictions.	Cyber Terrorism
MUN #38	Prohibit or block cyber terrorism on public facilities and continuing routine server backups.	Cyber Terrorism
MUN #39	Provide annual cyber-security and awareness training to all County staff to reduce risk and occurrence of phishing and malware attacks	Cyber Terrorism

ID #	Municipal Mitigation Action	Hazard(s)
MUN #40	Monitor water supply and conserve water through public awareness campaigns conducted using news and radio stations. A survey of residential wells and public water customers should also be conducted to evaluate the status of residential drinking water in the county and identify trends.	Drought
MUN #41	Coordinate efforts between Region 9 and adjacent counties to identify groundwater recharge areas and sensitive groundwater areas. Work closely with the municipalities to enforce infiltration and groundwater recharge requirements in these areas to reduce the impacts of drought.	Drought
MUN #42	Encourage the county and municipalities to adjust their zoning ordinance to discourage development on permeable soils to reduce the impacts of drought.	Drought
MUN #43	Utilize pamphlets and articles about the warning signs and the potential damages of thunderstorms and lightning strikes.	Thunderstorm
MUN #44	Reinforce structures and infrastructure against hail and increase awareness before hailstorms with public announcements.	Hail
MUN #45	Work with the utility and cable companies to develop a plan for the preventive right-of-way maintenance of trees near powerlines particularly during the winter.	Severe Winter storm
MUN #46	Work with Harpers Ferry and Water Commission to ensure clean drinking water and establish disaster related processes. Note: This action items is specific to Bolivar only.	All Hazards
MUN #47	Review methods for reducing the amount sediment that enters into the Harpers Ferry Wastewater Treatment Plant from Elk Run. Note: This action items is specific to Harpers Ferry only.	Karst
MUN #48	Install fencing around Harpers Ferry Wastewater Treatment Plant to prevent possible contamination such as chemical injection into the open basin. Note: This action items is specific to Harpers Ferry only.	Terrorism
MUN #49	Ensure the newly upgraded computer control at the Harpers Ferry Wastewater Treatment Plant has cyber security in-place. Develop a cyber security threat mitigation strategy to reduce the impact of a cyber security incident. Note: This action items is specific to Harpers Ferry only.	Cyber Terrorism
MUN #50	Request the Town of Bolivar to complete the capabilities assessment survey as part of the annual plan update.	All Hazards

As a final step in the process, each municipality was asked to select the top 3-5 municipal mitigation actions that resonate the most for their specific jurisdiction. Table 6-9 lists the priority mitigation action items selected by each municipality.

Table 6-10: Municipal Priority Mitigation Action Items		
Bolivar		
ID #	**Municipal Mitigation Action**	**Hazard(s)**
MUN #2	Develop Continuity of Operations Plan to ensure government services are provided prior, during, and after hazard incidents.	All hazards
MUN #12	Coordinate with local private contractors to develop mutual aid agreements for emergency snow removal, also develop a Debris Management Plan that can be implemented following a disaster occurrence.	All hazards
MUN #45	Work with the utility and cable companies to develop a plan for the preventive right-of-way maintenance of trees near powerlines particularly during the winter.	Severe Winter Storm
MUN #46	Work with Harpers Ferry and Water Commission to ensure clean drinking water and establish disaster related processes. Note: This action items is specific to Bolivar only.	All Hazards
Charles Town		
ID #	**Municipal Mitigation Action**	**Hazard(s)**
MUN #1	Consider joining FEMA's Community Rating System (CRS) to decrease the cost of flood insurance for residents within municipalities. Partner with the County to complete activities that will result in the obtainment of CRS points.	Flood
MUN #10	Develop and deliver information to all county residents through community groups, publications town meetings, training seminars and the county website to promote preparedness through preparation and provide hazard related information that is easily accessible. The plan is to expand and update the website as needed and as appropriate in a timely manner to benefit all County residents. Website updates should include Increase education and awareness about shelter-in-place facts, earthquake awareness, including measures to take to safe-proof homes and proper procedures to take to safeguard against and prepare for winter storms. Send information to all municipalities for posting and/or dissemination.	All hazards
MUN #11	Form a partnership amongst county agencies to conduct periodic exercises for all hazards. Primary focus on school bus accident and MCI.	All hazards
MUN #13	Install Uninterruptible Power Supply (UPS) systems on traffic signals.	All hazards
MUN #30	Develop an Extreme Heat Emergency Plan identifying triggers, surveillance, and actions.	Extreme Temperature
Harpers Ferry		
ID #	**Municipal Mitigation Action**	**Hazard(s)**
MUN #37	Establish a County Cyber Security and Risk Mitigation Plan to be implemented by county and 5 jurisdictions	Cyber Terrorism
MUN #45	Work with the utility and cable companies to develop a plan for the preventive right-of-way maintenance of trees near powerlines particularly during the winter.	Severe Winter storm
MUN #46	Work with Harpers Ferry and Water Commission to ensure clean drinking water and establish disaster related processes. Note: This action items is specific to Bolivar only.	All Hazards
Ranson		
ID #	**Municipal Mitigation Action**	**Hazard(s)**

MUN #15	Educate the public on the benefits of purchasing flood insurance and increase flood insurance users in Jefferson County. Create displays for use at public events (health fair, public awareness day, and county fair). This display would include pictures and information, such as that contained in FEMA's Retrofitting for Homeowners Guide, Elevating Your Flood Prone Home, Elevating Residential Structures, and information on the NFIP.	Flood
MUN #16	Strengthen Community Rating System (CRS) program to enhance rating by undertaking outreach and training efforts such as: distribute letters to all property owners in the county regarding potential flood hazards as required for participation in the CRS. and provide training to municipalities on the CRS program and encourage them to participate.	Flood
MUN #22	Encourage the purchase of flood insurance. Specifically targeting properties outside of the mapped 1-percent annual chance flood zone also known as the Special Flood Hazard Area (SFHA). Use messaging centered on climate change and resulting flooding that is occurring outside of the SFHA.	Flood
MUN #35	Adjust construction regulations to include areas where mapped and verified karst terrain exists, double layers of silt fencing may be implemented, as well as hay bales or core logs along the periphery of the standard workspace area to prevent outward migration of silt and reduce runoff velocity.	Karst
MUN #45	Work with the utility and cable companies to develop a plan for the preventive right-of-way maintenance of trees near powerlines particularly during the winter.	Severe Winter Storm
Shepherdstown		
ID #	**Municipal Mitigation Action**	**Hazard(s)**
MUN #1	Consider joining FEMA's Community Rating System (CRS) to decrease the cost of flood insurance for residents within municipalities. Partner with the County to complete activities that will result in the obtainment of CRS points.	Flood
MUN #10	Develop and deliver information to all county residents through community groups, publications town meetings, training seminars and the county website to promote preparedness through preparation and provide hazard related information that is easily accessible. The plan is to expand and update the website as needed and as appropriate in a timely manner to benefit all County residents. Website updates should include Increase education and awareness about shelter-in-place facts, earthquake awareness, including measures to take to safe-proof homes and proper procedures to take to safeguard against and prepare for winter storms. Send information to all municipalities for posting and/or dissemination.	All hazards
MUN #25	Conduct "Dark Grid" training and exercises. Emergency management officials can reduce vulnerability to utility interruption through training and exercises, such as the "Dark Grid" exercise, which prepare emergency responders and community leaders for a coordinated response to widespread utility interruptions.	Utility Interruptions
MUN #37	Establish a County Cyber Security and Risk Mitigation Plan to be implemented by county and 5 jurisdictions.	Cyber Terrorism

7. Plan Maintenance

7.1. Update Process Summary

Once this plan has received approval from WVEMD and FEMA, the plan will be adopted by Jefferson County and all participating jurisdictions. This HMP Update is intended to be a 'living document.' Plan adoption is not considered the final step in the planning process, but rather as a first step to 'realization.' The plan monitoring and maintenance schedule is a cycle of events that involve periodic review, adjustments, and improvement. Plan monitoring also provides an opportunity to recognize other planning initiatives within the county that may benefit from the incorporation of risk and/or mitigation objectives detailed in this hazard mitigation plan. This section establishes a method to monitor how the plan will be evaluated and maintained in the future.

Monitoring, evaluating, and updating this plan is critical to maintaining its value and success in Jefferson County's hazard mitigation efforts. Ensuring effective implementation of mitigation activities paves the way for continued momentum in the planning process and gives direction for the future. This section explains who will be responsible for maintenance activities and what those responsibilities entail. It also provides a methodology and schedule of maintenance activities including a description of how the public will be involved on a continued basis.

7.2. Monitoring, Evaluating and Updating the Plan

Hazard mitigation planning in Jefferson County is the responsibility of all levels of government (i.e., county, and local), as well as the citizens of the County. As listed in FEMA 386-4, members of the hazard mitigation committee must continuously monitor and document the progress of the Plan's recommended actions. Under the direction of the Jefferson County Office of Homeland Security and Emergency Management the committee will meet annually and following each emergency declaration, with the purpose of reviewing the Plan. The Office of Homeland Security and Emergency Management will lead annual reviews of the plan and solicit new projects from the municipalities by sending out project opportunity forms and informing the municipalities of the opportunity to update their mitigation actions.

Each review process will ensure that the Hazard Vulnerability Analysis and Risk Assessment reflect current conditions in the counties and the municipalities, the Capability Assessment accurately reflects local circumstances, and the hazard mitigation strategies are updated based on the county's damage assessment reports and local mitigation project priorities. Upon each evaluation, committee members will consider whether applications should be submitted for existing mitigation grant programs. A decision to apply for funding will be based on appropriate eligibility and financial need requirements. All state and federal mitigation funding provided to the county or local municipalities will be reported in subsequent plan updates. The committee will complete a Progress Report to evaluate the status and accuracy of the

plan and record the findings. The Jefferson County Office of Homeland Security and Emergency Management will maintain a copy of these records.

The Hazard Risk table will be reviewed and any changes to rankings based on frequency or severity to profiled hazards will be documented. Municipal officials will be asked to provide mitigation action progress information each year and the Mitigation Action Plan will be updated accordingly. The committee will prepare an annual update report of the mitigation actions based on the annual report forms from the municipalities and County. The annual plan review will be scheduled each year during the week of the approval anniversary. The following questions will be considered as criteria for assessing the effectiveness of the plan:

- Has the nature or magnitude of hazards affecting the region changed?
- Are there new hazards that have the potential to impact the region?
- Is there updated, or more quantitative, risk assessment data available related to the identified hazards in the plan? Can this data be integrated into the analysis to better assess the vulnerability, and depict the risk, of communities to the hazards?
- Do the identified goals and actions address current and expected conditions?
- Have mitigation actions been implemented or completed?
- Has the implementation of identified mitigation actions resulted in expected outcomes?
- Are current resources adequate to implement the plan?
- Should additional local resources be committed to address identified hazards?
- Are there current or upcoming planning mechanisms or initiatives in which the mitigation strategy should be considered for integration?

In addition to conducting an annual review of the Plan, the committee will review the Plan within 30 days of a disaster. The Risk Assessment and Mitigation Strategy will be evaluated and any changes to community priorities or status will be documented. The plan will receive a full, detailed update every five years, as required to reflect the current risk, vulnerabilities, development trends and as mitigation actions are implemented. While an annual report will be completed each year, any state and Federal mandates from WVEMD and FEMA respectively, will be addressed in the five-year update. The municipalities will not be responsible for making any changes to the plan document as part of annual reviews; their role will consist of information for the review and report only. A copy of each Annual Plan Review will be provided to WVEMD and FEMA and included as official documentation in the next 5-year HMP update.

Additional agencies throughout the region, such as the county-level offices of emergency management and LEPCs, will actively integrate the information contained in this risk assessment into other planning initiatives, such as the maintenance of their jurisdiction- specific Emergency Operations Plans (EOPs). These documents should support the strengthening of capabilities to respond to the hazards identified by the risk assessment. As mitigation projects are implemented and risk is thus reduced, the emergency services community may need to “re-plan” its response to address what has become a more critical risk.

The committee will complete a Progress Report to evaluate the status and accuracy of the plan and record the findings. As directed by FEMA 386-4, the Progress Report will include the following information: the hazard mitigation action's objectives; who the lead and supporting agencies responsible for implementation are; how long the project should take, including a delineation of the various stages of work along with timelines (milestones should be included); whether the resources needed for implementation, funding, staff time, and technical assistance are available, or if other arrangements must be made to obtain them; the types of permits or approvals necessary to implement the action; details on the ways the actions will be accomplished within the organization, and whether the duties will be assigned to agency staff or contracted out; and the current status of the project, identifying any issues that may hinder implementation.

7.3. Continued Public Involvement

The Jefferson County Office of Homeland Security and Emergency Management will ensure that the plan is posted and maintained on the County website and will continue to encourage public review and comment on the plan through information posted to the website and public notices in the local newspaper.

The citizens of Jefferson County are encouraged to submit their comments to elected officials and/or members of the Hazard Mitigation Steering Committee. To promote public participation, Jefferson County welcomed comments on the HMP for the entire planning period. This offered the public the opportunity to share their comments and observations. All comments received will be maintained and considered by the Hazard Mitigation Steering Committee when updating the plan.

The Comprehensive Plan; Building Code, Municipal Floodplain Management Regulations, Emergency Operations Plan, and Zoning Ordinance are identified for incorporation of hazard mitigation actions once the Plan is adopted. Each of these mechanisms will continue to be used to meet the intent of this Plan, as appropriate. Likewise, as these planning mechanisms are updated, they will be considered for incorporation into the plan during the annual review process and/or the five-year cycle update.

The region and participating jurisdictions may propose additional mitigation actions for inclusion throughout the five-year cycle but must submit new mitigation actions through the Office of Homeland Security and Emergency Management which will request a plan amendment by contacting the WVEMD State Hazard Mitigation Planner. FEMA must officially approve all additions and will amend the plan by issuing an Amendment Approval letter.

7.4. 7.4 Plan Integration

There are a variety of plans that can serve as conduits through which agencies can implement mitigation actions. During a committee meeting, members discussed the types of plans their agencies kept and how they could include mitigation actions or how the plans inform mitigation. The committee also mentioned comprehensive plans, however, these are described in more detail below due to their close alignment with hazard mitigation.

Table 7-1: Jefferson County Plan Integration

Agency/Plan Owner	Plan	Incorporation of Mitigation
Eastern Panhandle Transit Authority	Transit Development Plan, 2015	• Directs development toward appropriate, low hazard areas • Provides for additional evacuation routes during emergencies and incidents
Hagerstown Eastern Panhandle Metropolitan Planning Organization	Long Range Transportation Plan, 2018	• Ensures hazard acknowledgment in long-range transportation planning • Considers response elements to the hazards identified in the mitigation plan, as appropriate, concerning transportation (e.g., evacuation) • Ensures planned transportation projects do not add to vulnerabilities (e.g., ensure projects utilize proper drainage, are properly elevated, etc.) • Considers the incorporation of green infrastructure/low-impact development as transportation projects are undertaken (e.g., permeable pavements, green streets, and alleys, etc.)
HIDTA	HIDTA Baltimore-Washington Mapping	• Identifies high risk areas for drug trafficking • Provides real-time overdose surveillance data • Outlines drug abuse prevention initiatives
JC Board of Education	Emergency Operations Plan	• Establishes and maintains effective response programs • Supports continuity of critical infrastructure and key resources • Identifies specific risk areas or certain hazards

Table 7-1: Jefferson County Plan Integration		
Agency/Plan Owner	Plan	Incorporation of Mitigation
JC GIS	Address Compliance Program, 2017	• Locates critical facilities within the county with accurate coordinates for use by responders • Pinpoints all structures in the county for quicker emergency response
JC Health Department	Eastern Compliance Program, 2017	• Identifies possible reportable diseases • Establishes protocols for responding to disease outbreaks
JC Health Department & JC Ministries	Peer Recovery Coaches Program	• Identifies strategies for implementing projects for assisting people recovering from substance abuse
JC LEPC	Advanced Commodity Flow, 2017	• Provides detailed information on the hazardous materials transported by rail in the county • Identifies mitigation, prevention, and response activities for the different substances that pass through the county
JC LEPC	Commodity Flow Study, 2016	• Provides information on the variety of hazardous materials in the county (via highway, rail, and within covered facilities)
JC LEPC	Emergency Operations Plan	• Establishes and maintains effective response programs • Supports continuity of critical infrastructure and key resources • Identifies specific risk areas or certain hazards
JC LEPC	Hazardous Materials Response Plan	• Identifies methods by which hazmat teams and first responders can respond safely to hazardous materials incidents • Identifies partners
JC LEPC	Propane Risk Assessment, 2012	• Provides general information regarding propane in the county • Identifies safety mechanisms to dealing with propane for first responders
JC LEPC	Threat and Hazard Identification Risk Assessment	• Outlines the threats and hazards in the county • Identifies gaps in resources

Table 7-1: Jefferson County Plan Integration		
Agency/Plan Owner	Plan	Incorporation of Mitigation
JC LEPC	Tier II Assessment	• Identifies the types of facilities that exist in the county • Identifies the types of materials that the facilities handle
Shepherd University	Emergency Operations Plan	• Establishes and maintains effective response programs • Supports continuity of critical infrastructure and key resources • Identifies specific risk areas or certain hazards
Shepherdstown Fire	Community Risk Reduction Plan	• Provides information on mitigative actions that people can take to reduce their risks from fires
Various	Source Water Protection Plan	• Outlines strategies for protecting various water sources

The following table outlines the elements that comprehensive plans incorporate and how they relate directly to hazard mitigation.

Table 7-2: Comprehensive Plans' Relevance to Hazard Mitigation	
Plan Element	Relevance to Hazard Mitigation
Goals & Objectives	Definition*: This section establishes goals and objectives that serve as a guide for the development and economic and social well-being of the local jurisdictions. The goals and objectives tell the world how the community wants to function and look in the future. This section provides an opportunity for local officials to acknowledge the reciprocal benefits of hazard mitigation to community-level comprehensive planning. This section also serves as a statement of the community's stance on resilience at it moves forward.
Land use	Definition: The land use element outlines the most appropriate and desirable patterns of growth and development. This section can include risk areas as key points of information for consideration as to these appropriate and desirable patterns. Incorporating mitigation in this section does not automatically imply banning development from all high hazard areas; rather, it can identify those areas where certain types of resilient construction techniques would be beneficial.

Table 7-2: Comprehensive Plans' Relevance to Hazard Mitigation	
Plan Element	Relevance to Hazard Mitigation
Transportation	Definition: The transportation element describes and presents transportation patterns and includes the entire spectrum of transportation facilities (transit, roads, bicycle and pedestrian amenities, and transit-oriented development) applicable to the jurisdiction. This section can recognize the importance of the transportation infrastructure to overall emergency and disaster preparedness. Within such a discussion, maintaining critical arterial routes can be prioritized as a mitigative measure.
Community Facilities	Definition: The community facilities element identifies the location, character and extent of public and semi-public buildings, lands, and facilities. This section provides another perspective from which to consider high-risk areas.
Development Regulations	Definition: The development regulations section identifies development tools that are the best available mechanisms to implement the plan, including streamlined review for development in designated growth areas. This section can discuss how local ordinances and regulations can be amended to account for hazard risks. As with the land use element, these regulations may recommend or require certain types of resilient construction.
Sensitive Areas	Definition: The sensitive areas element sets goals, objectives, principles, policies, and standards to protect sensitive areas from the adverse effects of development. The Land Use Article requires jurisdictions to protect streams and their buffers; the 100-year floodplain; habitats of threatened and endangered species; and steep slopes, wetlands, and agricultural and forest lands intended for resource protection or conservation. This section gives communities the option of designating high risk areas as sensitive areas.
Implementation	Definition: Recognizing the importance of designing land development regulations that implement the plan, this section is supposed to address recommendations for land development regulations. This section can include a series of actions that may be duplicated in the hazard mitigation plan (and vice versa). It allows communities to acknowledge those initiatives that overlap both community development and hazard mitigation goals.

Table 7-2: Comprehensive Plans' Relevance to Hazard Mitigation	
Plan Element	Relevance to Hazard Mitigation
Development Capacity Analysis	Definition: This section is an estimate of the total amount of development that may be built in an area under a certain set of assumptions, including land use laws and policies (e.g., zoning), environmental constraints, etc. This section can include high risk areas as a type of environmental constraint.
Municipal Growth	Definition: This element requires municipalities to identify areas for future growth consistent with their long-range visions. This section supports the multi-jurisdictional approach of this hazard mitigation plan by integrating discussions of high risk areas and their relation to areas targeted for future growth. It also provides space to consider such measures as resilient construction in municipal areas.
Water Resources	Definition: This element identifies drinking water supplies needed by projected populations. This section supports the continued operation of critical infrastructure, particularly water systems. By identifying drinking water supply needs and potential upgrades necessary to meet those needs, this section gives local officials the opportunities to discuss upgrades and other means of ensuring reliability of water during emergencies.

In Jefferson County, the county and all the jurisdictions have comprehensive plans. The following table outlines how each one of these specific plans relates to the hazard mitigation plan.

Table 7-3: Goals That Relate to Hazard Mitigation in Jefferson County Comprehensive Plans	
Goal	Hazard(s) Addressed
Jefferson County Planning and Zoning Envision Jefferson 2035 Comprehensive Plan, 2015	
Encourage the adaptive reuse of existing buildings and previously used sites within Jefferson County in context with their surroundings, paying particular attention to brownfield and greyfield sites (p.32)	Hazmat: removes pollution left by facilities.
Reduce stormwater runoff, nutrients, sediment, and waste materials that reach the Potomac and Shenandoah Rivers, as well as other water bodies through development oversight provisions (p.32)	Hazmat: reduces pollution in the water.

Table 7-3: Goals That Relate to Hazard Mitigation in Jefferson County Comprehensive Plans	
Goal	Hazard(s) Addressed
Encourage developers to build or redevelop structures that meet standards set by regional or national sustainable building organizations using emerging technologies and materials that will lower operating costs (p. 49)	All natural hazards: encourages stronger buildings that withstand weather and geological events.
Encourage local vocational institutions and educational or training entities to continue to train and educate builders, contractors, and construction workers in universal design techniques, energy efficiency, and "green" housing techniques (p. 61)	All hazards: reduces vulnerability to power outages and encourages stronger buildings.
Encourage public entities to utilize alternative and renewable energy sources for a variety of energy needs (p.93)	All hazards: reduces vulnerability to power outages from hazards.
Coordinate with the WVDOH and state and local emergency service agencies to identify additional points of ingress and egress for mountain communities off of Mission Road (p.113)	All hazards: allows for safe and effective evacuation routes during emergencies.
Review and amend the Zoning Ordinance and Subdivision Regulations to require developers design residential and non-residential subdivisions using conservation principles that would protect natural features (p.124)	All hazards: protecting natural features reduces impacts from natural hazards.
Coordinate with the West Virginia Department of Environmental Protection (WVDEP) to identify and regularly monitor hazardous materials storage sites that could potentially impact Jefferson County's waterways and ground water resources (p. 124)	Hazmat: encourages reduction of pollution in water.
Collaborate with the NRCS to support and maintain an accurate map of karst features including sinkholes and the underground cave network of Jefferson County to help property owners and developers identify sensitive areas (p. 124)	Land subsidence: identifies locations land subsidence for education.
Work with the West Virginia Division of Highways (WVDOH) to ensure that the protection of natural resources is considered when making decisions related to the location of future highway projects (p.124)	Landslides, land subsidence: directs development away from hazardous areas.

Table 7-3: Goals That Relate to Hazard Mitigation in Jefferson County Comprehensive Plans	
Goal	Hazard(s) Addressed
Reevaluate the requirements related to stream buffering along the County's waterways during site plan and subdivision development, taking into consideration the Chesapeake Bay requirements (p.125)	Hazmat: protects waterways from hazardous materials.
Partner with the Board of Health and property owners to ensure that septic systems are well-maintained in order to protect the County's groundwater resources (p. 125)	Public health crisis: reduces public health vulnerability.
Bolivar Comprehensive Plan, 2013	
Set aside and maintain more open spaces for all residents to enjoy (p. 43)	All hazards: protecting natural features reduces impacts from natural hazards.
Continue to enforce current land use/zoning ordinances (p. 43)	All hazards: encourages stronger buildings that withstand weather and geological events events.
Confine commercial enterprises to the commercially-zoned Washington Street corridor (p.43)	All hazards: directs development to established areas where vulnerabilities are known and identified.
Continue to focus on Stormwater management projects (p.44)	Flood: improves flooding from Stormwater systems.
Adopt new Stormwater management ordinances, combining them with existing ordinances to create a comprehensive and practical set of rules for all future development (p.44)	Flood: directs future development to use best practices to reduce vulnerability.
Charles Town Comprehensive Plan, 2018	
Identify and preserve those natural and scenic resources that characterize the city (p. 164) (p. 171) (p. 175)	All hazards: protecting natural features reduces impacts from natural hazards.
Increase the forest cover of the watershed (p.152)	Flood & severe thunderstorm: protecting natural features reduces impact from hazards and cascading effects.
Establish an official land use plan and evaluate existing zoning regulations to ensure compatibility (p.170)	All hazards: directs development to established areas where vulnerabilities are known and identified.
Provide for a diversity of land use types that are sustainable for the overall prosperity of the city (p.88)	All hazards: sustainability will aid in hazard mitigation.

Table 7-3: Goals That Relate to Hazard Mitigation in Jefferson County Comprehensive Plans	
Goal	Hazard(s) Addressed
Maintain and enhance emergency service response times (p.113)	All hazards: quick responses by responders will reduce threats to life and injuries
Provide safe and reliable water and wastewater service for all customers of the city (p. 138)	Public health crisis: increasing reliable water service reduces illness.
Meet all environmental standards and requirements applicable to its water and sewer system (p. 143)	Public health crisis: increasing reliable water service reduces illness.
Mitigate localized flooding from short intense storms as well as major catastrophic storm events (p.143) (p.159)	Flooding: mitigation projects reduce the impacts from flooding.
Harpers Ferry Comprehensive Plan, 2013	
Maintain the stream valleys in Harpers Ferry to protect water quality and provide additional hiking opportunities for residents and tourists (p. 8)	Flood: providing open spaces reduces the impacts on structures.
To have 40 percent of the land area in the town under tree canopy within 20 years, as recommended by American Forests to preserve, maintain and enhance the tree canopy in Harpers Ferry (p.10)	Extreme temperatures and flooding: trees provide shade that reduce heat and roots that can absorb excess water.
To have well built, safe and affordable housing for all the residents of Harpers Ferry (p.18)	Natural hazards: well-built houses are stronger and less vulnerable to the impacts of natural hazards.
To ensure a sufficient supply of potable water to the Town's current and future residents, including during drought conditions, natural disaster, or public emergencies (p. 25)	All-hazards: water is vital during emergencies; having systems in place that continue to provide it is crucial.
To control storm water run-off in a manner that protects the natural and built environment and minimizes peak run-off (p. 27)	Flooding: minimizing runoff reduces flooding downstream.
To reduce the Town's dependence on nonrenewable energy resources through conservation and development of renewable energy sources (p.28)	All-hazards: having power that is not reliant on non-renewable energies can be more reliable during emergencies.
Ranson Comprehensive, 2012	
Redevelop the city's brownfield sites (p.30)	Hazardous materials: sites that have been adequately cleaned can be redeveloped and utilized.

Table 7-3: Goals That Relate to Hazard Mitigation in Jefferson County Comprehensive Plans	
Goal	Hazard(s) Addressed
Revise the Zoning and Subdivision Ordinance via the SmartCode (p. 31, 32)	All hazards: revising codes to ensure they promote sustainable development reduces impacts from hazards.
Incentivize redevelopment and expansion in areas most appropriate to promote well designed and coordinated communities, and to prevent sprawl (p.34)	All hazards: planning development in certain adequate areas can reduce vulnerability from hazards.
Work with the City of Charles Town, Jefferson County, and other public utilities to enhance stormwater management planning for lands within shared drainage sheds and achieve consistent standards between the County and municipalities (p.66)	Flooding: partnerships that encourage flood mitigation can reduce the impacts of floods from drainage problems.
Facilitate infill and redevelopment of Old Town through the construction of sustainable municipal stormwater management facilities (p.66)	Flooding: adequate Stormwater management will reduce flooding.
Implement a Storm Water Management Program (SWMP) and associated ordinance (p.66)	Flooding: adequate Stormwater management will reduce flooding.
Require that all new commercial and residential development with lots smaller than one acre to construct a closed section storm drain system (p.66)	Flooding: adequate Stormwater management will reduce flooding.
Review storm water regulations on a regular basis to make them equal or better than those of Jefferson County (p.66)	Flooding: adequate Stormwater management will reduce flooding.
Establish a Stormwater Utility Board for the City of Ranson that will be charged with implementing watershed-based stormwater management practices (p.67)	Flooding: adequate Stormwater management will reduce flooding.
Develop a fee structure for implementation of Stormwater Management Capital Projects that will reduce flooding, improve water quality, and include projects for regional stormwater detention and flood control (p.67)	Flooding: adequate Stormwater management will reduce flooding.
Safeguard critical public infrastructure from potential security threats (p.73)	Violent disturbance and terrorism: protecting critical facilities reduces vulnerabilities.
Reduce electrical demand through energy saving design practices and alternative energy generation (p.75)	All hazards: energy that does not depend on the grid is essential during emergencies.

Table 7-3: Goals That Relate to Hazard Mitigation in Jefferson County Comprehensive Plans	
Goal	Hazard(s) Addressed
Seek opportunities to develop land for unstructured recreation in a natural setting, particularly around low land and ravines (p.77)	All hazards: open areas reduce vulnerabilities to structures and people.
Buffer any hazardous materials and proposed development and direct stormwater runoff, treated or untreated, from sinkholes (p.85)	Hazardous materials: buffers can protect source water and rivers.
Preserve or acquire the 100-year floodplains and the buffers of the streams identified on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRM) (p.86)	Flooding: preserving and maintaining buffers along streams reduces the impacts to structures during flooding.
Encourage the use of natural drainage swales rather than visibly engineered, visually intrusive stormwater management channels in the more rural Transect zones (p.86)	Flooding: green infrastructure encourages the reduction of flooding in problem areas.
Identify and preserve wetlands by requiring wetland surveys for new developments and utilize the U.S. Corps of Engineers' recommendations for mitigation (p.86)	All hazards: preservation of wetlands can avoid development and avoid impacts from hazards on structures.
Shepherdstown Comprehensive Plan, 2014	
Growth and development will be balanced with the need to preserve open space and critical environmental and natural resources (p. 2-34)	All hazards: planned development can reduce vulnerability from a variety of hazards.
The Town will expand its corporate limits to include both adjacent developed areas as well as lands that have significant potential for future development and to meet open space goals (p. 2-42)	All hazards: adding open space gives opportunity to reduce the impacts from hazards.
Growth will be directed to those areas that have sufficient transportation and utility infrastructure capacity, as well as convenient access to other public services that are necessary to serve it (p.2-52)	All hazards: planning smart growth will ensure that new developments have the required emergency services.
Water and sewer infrastructure will be maintained to the highest standards, and operated in a manner that provides the highest quality service to utility customers and the lowest impact on the environment (p. 6-7)	Flooding and public health crisis: a well maintained sewer and water system will reduce flooding from Stormwater and avoid diseases.

Table 7-3: Goals That Relate to Hazard Mitigation in Jefferson County Comprehensive Plans	
Goal	Hazard(s) Addressed
The safety of the public will be assured through the provision of a level of police and fire protection that is sufficient to meet the needs of the community (p 6-9)	All hazards: an adequate police and fire presence will ensure the community's safety during emergencies.
The integrity and quality of land, water, air and other natural resources will be protected from negative impacts to preserve the overall environmental healthof the community (p. 8-6)	All hazards: a healthy environment can reduce the impacts from natural hazards and aide in recovery.
The community will have access to clean, efficient and sustainable energy resources (p. 8-15)	All hazards: sustainable energy sources can reduce the impacts of hazards.
Significant amounts of open space on the rural fringes of the community will be permanently protected from development and ultimately create a larger interconnected system of preserved land (p. 8-18)	All hazards: adding open space gives opportunity to reduce the impacts from hazards.

8. Plan Adoption

The Plan was submitted to the West Virginia Department of Homeland Security and Emergency Management on October 13, 2023 and forwarded to FEMA for final review and approval-pending-adoption on November 1, 2023. FEMA granted approval-pending-adoption on December 4, 2023. Full approval from FEMA was received after each jurisdiction adopted the plan.

This section of the plan includes copies of the local adoption resolutions passed by Jefferson County, and municipal governments. Adoption resolution templates are provided to assist the county and municipal governments with recommended language for future adoption of the plan.

A completed Mitigation Plan Review Tool can be seen in Appendix C.

Appendix

Appendix A: Mitigation Funding Sources

The following is a list of Federal and State Grants that may assist in implementing local Hazard Mitigation Plans.

Disclaimer: This information is subject to change at any time, contact the federal or state agency for current grant status.

Database last updated February 2023

Table A-1: Potential Funding Sources					
Grant Program Name	**Address and Telephone Contact Information**	**Eligible Activities**	**Federal, State and Local Cost Share Requirements**	**Other Program Characteristics**	**Grant Application Due Date**
Federal Emergency Management Agency, Hazard Mitigation Grant Program (HMGP)	Maryland Department of Emergency Management 5401 Rue Saint Lo Drive Reisterstown, MD 21136	All Hazards Mitigation Planning. Acquisition, relocation, elevation and flood-proofing of flood-prone insured properties, flood mitigation planning, wind retrofit, stormwater improvements, education and awareness.	Federal - 75% Non-Federal - 25%	Local governments must follow the NFIP when a proposed project is located within the 100-year floodplain, also known as the Special Flood Hazard Area (SFHA). Projects must be cost effective, environmentally sound and solve problems. Repetitive loss properties are a high priority.	After a Presidential Disaster Declaration
Federal Emergency Management Agency, Building Resilient Infrastructure and Communities (BRIC)	Maryland Department of Emergency Management 5401 Rue Saint Lo Drive Reisterstown, MD 21136	BRIC funds may be used for: Capability and Capacity Building (C&CB) Activities, Mitigation Projects, and Management Costs.	Federal - 75% Non-Federal - 25% Economically Disadvantaged Rural Communities (EDRC) are eligible for an increase in funding up to 90% federal cost share/10% non-federal cost share. FEMA provides 100% federal cost share funding for management costs.	Projects must: Be cost-effective, Reduce or eliminate risk and damage from future natural hazards, Meet either of the two latest published editions of relevant consensus-based codes, specifications, and standards, Align with the applicable hazard mitigation plan, Meet all environmental and historic preservation (EHP) requirements.	Annual- Spring/Summer
Federal Emergency Management Agency, Flood Mitigation Assistance Program (FMA)	Maryland Department of Emergency Management 5401 Rue Saint Lo Drive Reisterstown, MD 21136	Assist States and communities to implement measures that reduce or eliminate the long- term risk of flood damage to buildings, manufactured homes, and other structures insured under the National Flood Insurance Program.	RL: Federal - 90% Non-Federal - 10% SRL: Federal - 100% Non-Federal - 0%	Available once a Flood Mitigation Plan has been developed and approved by FEMA.	Annual- Spring/Summer
National Flood Insurance Program (NFIP)	Maryland Department of Emergency Management 5401 Rue Saint Lo Drive Reisterstown, MD 21136	Provides financial protection by enabling persons to purchase insurance against floods, mudslide or flood related erosion.	Varies	Includes Federally backed insurance against flooding, available to individuals and businesses that participate in the NFIP.	Anytime
Increased Cost of Compliance	Maryland Department of Emergency Management 5401 Rue Saint Lo Drive Reisterstown, MD 21136	ICC coverage provides payment to help cover the cost of mitigation activities that will reduce the risk of future flood damage to a building. If a Flood Insurance Policy Holder suffers a flood loss and is declared to be substantially or repetitively damaged, ICC will pay up to 30,000 to bring the building into compliance with State or community floodplain management laws or ordinances. Usually this means elevating or relocating the building so that it is above the base flood elevation (BFE).	Varies	Once the local jurisdiction determines the building is substantially or repetitively damaged, the policy holder can contact an insurance agent to file an ICC claim. When applicable, based on provisions in the 2015 HMA Guidance, up to $30,000 of ICC funding can be used towards the non-federal share for a Hazard Mitigation Assistance (HMA) project.	Anytime

Table A-1: Potential Funding Sources					
Grant Program Name	**Address and Telephone Contact Information**	**Eligible Activities**	**Federal, State and Local Cost Share Requirements**	**Other Program Characteristics**	**Grant Application Due Date**
U.S. Economic Development Administration, Economic Adjustment Program	U.S. Department of Commerce Economic Development Administration Curtis Center, 601 Walnut Street, Ste 140 South Philadelphia, PA 19106-3323 215-597-4603	Improvements and reconstruction of public facilities after a disaster or industry closing. Research studies designed to facilitate economic development.	Federal - 50%-70% Local- 30%-50%	Documenting economic distress, job impact and proposing a project that is consistent with a Comprehensive Economic Development Strategy are important funding selection criteria.	Anytime
U.S Economic Development Administration, Public Works and Development Facilities	U.S. Department of Commerce Economic Development Administration Curtis Center, 601 Walnut Street, Ste 140 South Philadelphia, PA 19106-3323 215-597-4603	Water and sewer, Industrial access roads, rail spurs, port improvements technological and related infrastructure	Federal - 50%-70% Local- 30%-50%	Documenting economic distress, job impact and projects that is consistency with a Comprehensive Economic Development Strategy are important funding selection criteria.	Quarterly Basis
Small Business Administration (SBA) Pre-disaster Mitigation Loan Program	James Rivera, Office of Disaster Assistance, Small Business Administration, 409 3rd Street, SW, STE 6050 Washington, DC 20416 202-205-6734	Activities done for the purpose of protecting real and personal property against disaster related damage.	No information	The mitigation measures must protect property or contents from damage that may be caused by future disasters and must conform to the priorities and goals of the state or local government's mitigation plan.	
Community Development Block Grants / States Program	U.S Department of Housing and Urban Development, Office of Block Grant Assistance, 451 7th Street SW., Washington, DC 20410-7000 202- 708-1112	Used for long-term recovery needs, such as: rehabilitation residential and commercial building; homeownership assistance, including down-payment assistance and interest rate subsidies; building new replacement housing; code enforcement; acquiring, construction, or reconstructing public facilities.	No information	Citizen participation procedures must be followed. At least 70 percent of funds must be used for activities that principally benefit persons of low and moderate income. Formula grants to States for non-entitlement communities.	After a Presidential Disaster Declaration
Fire Suppression Assistance Program	Infrastructure Division, Response and Recovery Directorate, FEMA, 500 C Street SW., Washington DC 20024 202-646-2500	Provides real-time assistance for the suppression of any fire on public (non- Federal) or privately owned forest or grassland that threatens to become a major disaster.	Federal - 70% Local - 30%	The State must first meet annual floor cost (if percent of average fiscal year fire costs) on a single declared fire. After the State's out-of- pocket expenses exceed twice the average fiscal year costs, funds are made available for 100 percent of all costs for each declared fire.	Funds from President's Disaster Relief Fund for use in a designated emergency or major disaster area.
Historic Preservation: Repair and Restoration of Disaster- Damaged Historic Properties	Infrastructure Division, Response and Recovery Directorate, FEMA, 500 C Street SW., Washington DC 20024 202-646-4621	To evaluate the effects of repairs to, restoration of, or mitigation hazards to disaster-damaged historic structures working in concert with the requirements of the Stafford Act.	Federal - 75% Local - 25%	Eligible to State and local governments, and any political subdivision of a State. Also, eligible are private non-profit organizations that operate educational, utility, emergency, or medical facilities.	After a Presidential Disaster Declaration

Table A-1: Potential Funding Sources					
Grant Program Name	**Address and Telephone Contact Information**	**Eligible Activities**	**Federal, State and Local Cost Share Requirements**	**Other Program Characteristics**	**Grant Application Due Date**
Transportation: Emergency Relief Program	Federal Transit Authority, FHWA, DOT, 1200 New Jersey Avenue Washington, DC 20590 202-366-4043	Provides aid for the repair of Federal-aid roads and roads on Federal lands.	Federal - 100%	Application is submitted by the State department of transportation for damages to Federal-aid highway routes, and by the applicable Federal agency for damages to roads on Federal lands.	After serious damage to Federal-aid roads or roads on Federal lands caused by a natural disaster or by catastrophic failure.
Animals: Emergency Haying and Grazing	Emergency and Non-insured Assistance Programs, FSA, USDA, 1400 Independence Ave, SW, Washington, DC 20013 202-720-4053	To help livestock producers in approved counties when the growth and yield of hay and pasture have been substantially reduced because of a widespread natural disaster.	No information	Assistance is provided by the Secretary of Agriculture to harvest hay or graze cropland, or other commercial use of forage devoted to the Conservation Reserve Program (CRP0 in response to a drought or other similar emergency.	Anytime
Emergency Watershed Protection Program	Natural Resources Conservation Service 1400 Independence Avenue, SW Washington, DC 20250	Implementing emergency recovery measures for runoff retardation and erosion prevention to relieve imminent hazards to life and property created by a natural disaster that causes a sudden impairment of a watershed.	Federal - 75% Local - 25%	It cannot fund operation and maintenance work or repair private or public transportation facilities or utilities. The work cannot adversely affect downstream water rights and funds cannot be used to install measures not essential to the reduction of hazards.	TBD
Watershed Protection and Flood Prevention Program	Natural Resources Conservation Service 1400 Independence Avenue, SW Washington, DC 20250	To provide technical and financial assistance in carrying out works of improvement to protect, develop, and utilize the land and water resources in watersheds.	Varies due to project type.	Watershed area must not exceed 250,000 acres. Capacity of a single structure is limited to 25,000 acre-feet of total capacity and 12,500 acre- feet of floodwater detention capacity.	TBD
Watershed Surveys and Planning	Natural Resources Conservation Service 1400 Independence Avenue, SW Washington, DC 20250	To provide planning assistance to Federal, State, and local agencies for the development of coordinated water and related programs in watersheds and river basins. Emphasis is on flood damage reduction, erosion control, water conservation, preservation of wetlands and water quality improvements.	No information	These watershed plans form the basis for installing needed works of improvement and include estimated benefits and costs, cost- sharing, operation and maintenance arrangements, and other information necessary to justify the need for Federal assistance in carrying out the plan.	Anytime
Emergency Advance Measures for Flood Prevention	USACE 441 G Street, NW, Washington DC 20314 202-761-0011	To perform activities prior to flooding or flood fight that would assist in protecting against loss of life and damages to property due to flooding.	No information	There must be an immediate threat of unusual flooding present before advance measures can be considered. Any work performed under this program will be temporary in nature and must have a favorable benefit cost ratio.	Governor of State must request assistance

Table A-1: Potential Funding Sources					
Grant Program Name	**Address and Telephone Contact Information**	**Eligible Activities**	**Federal, State and Local Cost Share Requirements**	**Other Program Characteristics**	**Grant Application Due Date**
Emergency Streambank and Shoreline Protection	USACE 441 G Street, NW, Washington DC 20314 202-761-0011	Authorizes the construction of emergency streambank protection measures to prevent damage to highways, bridge approaches, municipal water supply systems, sewage disposal plants, and other essential public works facilities endangered by floods or storms due to bank erosion.	No information	Churches, hospitals, schools, and other non- profit service facilities may also be protected under this program. This authority does not apply to privately-owned property or structures.	TBD
Small Flood Control Projects	USACE 441 G Street, NW, Washington DC 20314 202-761-0011	Authorizes the construction of small flood control projects that have not already been specifically authorized by Congress.	No information	There are two general categories of projects: structural and nonstructural. Structural projects may include levees, floodwalls, diversion channels, pumping plants, and bridge modifications. Nonstructural projects have little or no effect on water surface elevations, and may include flood proofing, the relocation of structures, and flood warning systems.	TBD
Flood: Emergency Advance Measures for Flood Prevention	USACE 441 G Street, NW, Washington DC 20314 202-761-0011	To mitigate, before an event, the potential loss of life and damages to property due to floods.	No information	Assistance may consist of temporary levees, channel cleaning, preparation for abnormal snowpacks, etc.	Governor of State must request assistance
Continuing Authorities Program (CAP)	USACE 441 G Street, NW, Washington DC 20314 202-761-0011	Initiates a short reconnaissance effort to determine Federal interest in proceeding. If there is interest, a feasibility study is performed.	Federal - 65% Local - 35%	A local sponsor must identify the problem and request assistance. Small flood control projects are also available.	Anytime
Hazardous Materials: State Access to the Oil Spill Liability Trust Fund	Director, USCG National Pollution Funds Center, U.S. Coast Guard Stop 7605. 2703 Martin Luther King Jr. Avenue, SE Washington, DC 20593-7605 202-795-6000	To encourage greater State participation in response to actual or threatened discharges of oil.	No information	Eligible to States and U.S. Trust Territories and possessions.	Anytime

Appendix B: Bibliography

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Appendix C: FEMA Plan Review Tool

Local Mitigation Plan Review Tool

Cover Page

The Local Mitigation Plan Review Tool (PRT) demonstrates how the local mitigation plan meets the regulation in 44 CFR § 201.6 and offers states and FEMA Mitigation Planners an opportunity to provide feedback to the local governments, including special districts.

1. The Multi-Jurisdictional Summary Sheet is a worksheet that is used to document how each jurisdiction met the requirements of the plan elements (Planning Process; Risk Assessment; Mitigation Strategy; Plan Maintenance; Plan Update; and Plan Adoption).
2. The Plan Review Checklist summarizes FEMA's evaluation of whether the plan has addressed all requirements.

For greater clarification of the elements in the Plan Review Checklist, please see Section 4 of this guide. Definitions of the terms and phrases used in the PRT can be found in Appendix E of this guide.

Plan Information	
Jurisdiction(s)	Jefferson County, West Virginia
Title of Plan	Hazard Mitigation Plan 2023
New Plan or Update	Update
Single- or Multi-Jurisdiction	Multi-jurisdiction
Date of Plan	10/13/2023
Local Point of Contact	
Title	Director: Steve Allen
Agency	Jefferson County Office of Homeland Security and Emergency Management
Address	28 Industrial Blvd., Suite 101 Kearneysville, WV 25430
Phone Number	304-728-3290
Email	sallen@jeffersoncountywv.org

Additional Point of Contact	
Title	Deputy Director / Planner: Dick W. Myers
Agency	Jefferson County Office of Homeland Security and Emergency Management
Address	28 Industrial Blvd., Suite 101 Kearneysville, WV 25430
Phone Number	304-728-3329
Email	dmyers@jeffersoncountywv.org

Review Information	
State Review	
State Reviewer(s) and Title	State Hazard Mitigation Planner (SHMO) Gabriel Reed
State Review Date	10/24/2023
FEMA Review	
FEMA Reviewer(s) and Title	Bill Kuhn, Community Planner, Region 3, WV FIT
Date Received in FEMA Region	11/1/2023 Second Review: 1/3/2024
Plan Not Approved	
Plan Approvable Pending Adoption	1/4/2024
Plan Approved	Click or tap to enter a date.

Multi-Jurisdictional Summary Sheet

In the boxes for each element, mark if the element is met (Y) or not met (N).

#	Jurisdiction Name	A. Planning Process	B. Risk Assessment	C. Mitigation Strategy	D. Plan Maintenance	E. Plan Update	F. Plan Adoption	G. State Requirements
1	Bolivar	y	y	y	y	y		y
2	Charles Town	y	y	y	y	y		y
3	Harpers Ferry	y	y	y	y	y		y
4	Ranson	n	n	n	n	n		y
5	Shepherdstown	y	y	y	y	y		y
6	Jefferson County	y	y	y	y	y		y
7								
8								
9								
10								

Plan Review Checklist

The Plan Review Checklist is completed by FEMA. States and local governments are encouraged, but not required, to use the PRT as a checklist to ensure all requirements have been met prior to submitting the plan for review and approval. The purpose of the checklist is to identify the location of relevant or applicable content in the plan by element/sub-element and to determine if each requirement has been "met" or "not met." FEMA completes the "required revisions" summary at the bottom of each element to clearly explain the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is "not met." Sub-elements in each summary should be referenced using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each element and sub-element are described in detail in Section 4: Local Plan Requirements of this guide.

Plan updates must include information from the current planning process.

If some elements of the plan do not require an update, due to minimal or no changes between updates, the plan must document the reasons for that.

Multi-jurisdictional elements must cover information unique to all participating jurisdictions.

Element A: Planning Process

Element A Requirements	Location in Plan (section and/or page number)	Met / Not Met
A1. Does the plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement 44 CFR § 201.6(c)(1))		
A1-a. Does the plan document how the plan was prepared, including the schedule or time frame and activities that made up the plan's development, as well as who was involved?	3.1. Pg 32, 33, 36	Met
A1-b. Does the plan list the jurisdiction(s) participating in the plan that seek approval, and describe how they participated in the planning process?	3.1. Pg 32	Met

Element A Requirements	Location in Plan (section and/or page number)	Met / Not Met
A2. Does the plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development as well as businesses, academia, and other private and non-profit interests to be involved in the planning process? (Requirement 44 CFR § 201.6(b)(2))		
A2-a. Does the plan identify all stakeholders involved or given an opportunity to be involved in the planning process, and how each stakeholder was presented with this opportunity?	3.2. Pg 33-36	Met
A3. Does the plan document how the public was involved in the planning process during the drafting stage and prior to plan approval? (Requirement 44 CFR § 201.6(b)(1))		
A3-a. Does the plan document how the public was given the opportunity to be involved in the planning process and how their feedback was included in the plan?	3.4. Pg 43-44	Met
A4. Does the plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement 44 CFR § 201.6(b)(3))		
A4-a. Does the plan document what existing plans, studies, reports and technical information were reviewed for the development of the plan, as well as how they were incorporated into the document?	1.6. Pg 16; 3.3.4. Pg 42; 4.1. Pg 50	Met

ELEMENT A REQUIRED REVISIONS
No Required Revisions: **Recommended Revisions:** ▪ Community Profile o Recommended Revision: Introduce a summary of Environmental and Historic Preservation (EHP) considerations to discuss the number of historic sites located across the county at risk. ▪ A3-a. Does the plan document how the public was given the opportunity to be involved in the planning process and how their feedback was included in the plan? o Recommended Revision: Include the response rate of worksheets, forms, and surveys with each bullet. The last paragraph of page 44 calls out 56 responses compared to the 2018 version of the online hazard mitigation survey. This provides great visibility on community participation in planning process. ▪ A4-a. Recommend Revision: Within the Planning Process section clearly state what existing plans, studies, reports and technical information were reviewed for the development of the plan, as well as how they were incorporated into the document. While there are references to the 2018 plan being used in section 3 Planning Process there is not a list of resources that shaped the planning process or if any GIS tools, datasets, such as the Socially Vulnerability Index, were used to inform the process.

Element B: Risk Assessment

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
B1. Does the plan include a description of the type, location, and extent of all natural hazards that can affect the jurisdiction? Does the plan also include information on previous occurrences of hazard events and on the probability of future hazard events? (Requirement 44 CFR § 201.6(c)(2)(i))		
B1-a. Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area?	4.1.Pg. 50; 4.4. Pg 52, 64, 76, 89, 120, 140, 150, 160, 176, 190, 201, 243	Met

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
B1-b. Does the plan include information on the location of each identified hazard?	4.4. Pg 52, 64, 76, 89, 120, 140, 150, 160, 176, 190, 201, 243	Met
B1-c. Does the plan describe the extent for each identified hazard?	4.4. Pg 52, 64, 76, 89, 120, 140, 150, 160, 176, 190, 201, 243	Met
B1-d. Does the plan include the history of previous hazard events for each identified hazard?	4.4. Pg 52, 64, 76, 89, 120, 140, 150, 160, 176, 190, 201, 243	Met
B1-e. Does the plan include the probability of future events for each identified hazard? Does the plan describe the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature and sea levels), on the type, location and range of anticipated intensities of identified hazards?	4.4. Pg 52, 64, 76, 89, 120, 140, 150, 160, 176, 190, 201, 243	Met
B1-f. For participating jurisdictions in a multi-jurisdictional plan, does the plan describe any hazards that are unique to and/or vary from those affecting the overall planning area?	4.4.18. Pg. 243	Met
B2. Does the plan include a summary of the jurisdiction's vulnerability and the impacts on the community from the identified hazards? Does this summary also address NFIP-insured structures that have been repetitively damaged by floods? (Requirement 44 CFR § 201.6(c)(2)(ii))		
B2-a. Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards?	4.4. Pg 52, 64, 76, 89, 120, 140, 150, 160, 176, 190, 201, 243	Met
B2-b. For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction?	4.4. Pg 52, 64, 76, 89, 120, 140, 150, 160, 176, 190, 201, 243	Met

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
B2-c. Does the plan address NFIP-insured structures within each jurisdiction that have been repetitively damaged by floods?	4.4.4.3. Pg 99; Tables 4-17 and 4-18, Pg 100;	Met

ELEMENT B REQUIRED REVISIONS

No required Revisions.

Recommended Revisions:

B1-e. Does the plan include the probability of future events for each identified hazard? Does the plan describe the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature and sea levels), on the type, location and range of anticipated intensities of identified hazards?

- Recommended Revision: 2.1 Community Profile: Geography and Environment

  Similar to the 2023 WV SHMP, both temperature and precipitation should demonstrate the historical trends for annual temperature and precipitation across Jefferson County. Floods are identified as the biggest threat to the state along with drought being a significant hazard. These sections are important to demonstrate how data is informing the plan. Include a historical analysis of temperature and precipitation in the county and how it might be changing over time. This would complement with the following demographics sections.

B1. Does the plan include a description of the type, location, and extent of all natural hazards that can affect the jurisdiction? Does the plan also include information on previous occurrences of hazard events and on the probability of future hazard events? (Requirement 44 CFR § 201.6(c)(2)(i))

- Recommended Revision: 4.4.3.5. Future Occurrence (Extreme Temperatures), Pg. 83: "but as seen in Table 4 14, Jefferson County should be aware of a general trend of warming" Refer to required revision to add historical temperature analysis in community profile. Table 4-14 explains the thresholds for heat advisories, but not a 'general trend of warming'. While national and northeasterly projections are good, a historical analysis in the community profile on temperature would more appropriately showcase the trend.
- Recommended Revision: 4.4.3.7. Vulnerability Assessment (Extreme Temperatures), Pg. 87: "Efforts to mitigate the impacts should focus on those groups most vulnerable." What do mitigation actions look like in Jefferson County from the HMPC? Are heating/cooling centers mentioned as a mitigation action or referenced in another EOP?
- Recommended Revision: 4.4.3.8 People (Extreme Temperatures), Pg. 87: Recommend referencing SVI and census data to showcase income and poverty levels that can give reviewers an indication of those vulnerable to less adequate HVAC across the county.
- Recommended Revision: 4.4.7.1. Past Occurrence (Public Health & Pandemic), Pg. 143: Share the experience of local healthcare providers during the COVID-19 Pandemic. How was staff, bed count, and resources of medical facilities in Jefferson County stressed/tested/exceeded?
- Recommended Revision: 4.4.8.1 Location and Extent (Severe Thunderstorm & Hail Storm), Pg. 152: There are no details on the location/extent of these storms in the county, only a broad mention of them being throughout. Recommend using the past occurrences to inform how these storms impact the local jurisdictions more broadly.
- Recommended Revision: 4.4.8.2 Past Occurrence (Severe Thunderstorm & Hail Storm), Pg. 153: "89 lightning events in the 55 counties across West Virginia between 1950 and 2021." Is there data available for Jefferson County?

ELEMENT B REQUIRED REVISIONS
▪ Recommended Revision: 4.4.8.2 Past Occurrence (Severe Thunderstorm & Hail Storm), Pg. 154: No damages were claimed except from Harpers Ferry in 1993 and 2004. Was this because of damage to historical properties? ▪ Recommended Revision: 4.4.9.5 Vulnerability Assessment (Severe Wind & Tornado), Pg. 172: Table 4-43 is helpful, but recommend a Figure that maps out the locations of manufactured/mobile home parks across the county. ▪ Recommended Revision: 4.4.10.2 Past Occurrence (Severe Winter Storm), Pg.180: Table 3-39: Winter Storm Events Impacting Jefferson County from 1997 to May 2023 (NCEI NOAA, 2023) – Much of this table illustrates zeros for injuries and crop damage. This could be highlighted in the 4.4.10.1 or 4.4.10.2 early paragraphs. Recommend more useful data such as snow/ice accumulation, number of closed school days or opened warming shelters. ▪ Recommended Revision: Community Activities Sections: These are mostly copied statements throughout the document and should only be shared in the community profile section as they do not change per hazard.

Element C: Mitigation Strategy

Element C Requirements	Location in Plan (section and/or page number)	Met / Not Met
C1. Does the plan document each participant's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement 44 CFR § 201.6(c)(3))		
C1-a. Does the plan describe how the existing capabilities of each participant are available to support the mitigation strategy? Does this include a discussion of the existing building codes and land use and development ordinances or regulations?	5.3.2. Pg 262; 5.3.2.3. Pg 263; 5.4. Pg. 269-273;	Met
C1-b. Does the plan describe each participant's ability to expand and improve the identified capabilities to achieve mitigation?	5.4.Pg. 263-277	Met

Element C Requirements	Location in Plan (section and/or page number)	Met / Not Met
C2. Does the plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement 44 CFR § 201.6(c)(3)(ii))		
C2-a. Does the plan contain a narrative description or a table/list of their participation activities?	5.3.2.10. Pg. 271	Met
C3. Does the plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement 44 CFR § 201.6(c)(3)(i))		
C3-a. Does the plan include goals to reduce the risk from the hazards identified in the plan?	6.2. Pg. 283-284	Met
C4. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement 44 CFR § 201.6(c)(3)(ii))		
C4-a. Does the plan include an analysis of a comprehensive range of actions/projects that each jurisdiction considered to reduce the impacts of hazards identified in the risk assessment?	6.3. Pg. 286-340	Met
C4-b. Does the plan include one or more action(s) per jurisdiction for each of the hazards as identified within the plan's risk assessment?	288-296; 297-303; 304-310; 311-318; 319-325; 326-330; Table 6-9, Pg 331-332	Met
C5. Does the plan contain an action plan that describes how the actions identified will be prioritized (including a cost-benefit review), implemented, and administered by each jurisdiction? (Requirement 44 CFR § 201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))		
C5-a. Does the plan describe the criteria used for prioritizing actions?	6.3. Pg. 286	Met
C5-b. Does the plan provide the position, office, department or agency responsible for implementing/administrating the identified mitigation actions, as well as potential funding sources and expected time frame?	7.4. Pg. 344-354	Met

ELEMENT C REQUIRED REVISIONS
No Required Revision: No Recommended Revisions: All required revisions have been met.

Element D: Plan Maintenance

Element D Requirements	Location in Plan (section and/or page number)	Met / Not Met
D1. Is there discussion of how each community will continue public participation in the plan maintenance process? (Requirement 44 CFR § 201.6(c)(4)(iii))		
D1-a. Does the plan describe how communities will continue to seek future public participation after the plan has been approved?	7.3. Pg. 335	Met
D2. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a five-year cycle)? (Requirement 44 CFR § 201.6(c)(4)(i))		
D2-a. Does the plan describe the process that will be followed to track the progress/status of the mitigation actions identified within the Mitigation Strategy, along with when this process will occur and who will be responsible for the process?	7.2. Pg. 333-335	Met
D2-b. Does the plan describe the process that will be followed to evaluate the plan for effectiveness? This process must identify the criteria that will be used to evaluate the information in the plan, along with when this process will occur and who will be responsible.	7.2. Pg. 334	Met
D2-c. Does the plan describe the process that will be followed to update the plan, along with when this process will occur and who will be responsible for the process?	7.2. Pg. 333-335	Met

Element D Requirements	Location in Plan (section and/or page number)	Met / Not Met
D3. Does the plan describe a process by which each community will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement 44 CFR § 201.6(c)(4)(ii))		
D3-a. Does the plan describe the process the community will follow to integrate the ideas, information and strategy of the mitigation plan into other planning mechanisms?	7.2. Pg. 333-335	Met
D3-b. Does the plan identify the planning mechanisms for each plan participant into which the ideas, information and strategy from the mitigation plan may be integrated?	7.2. Pg. 334-354	Met
D3-c. For multi-jurisdictional plans, does the plan describe each participant's individual process for integrating information from the mitigation strategy into their identified planning mechanisms?	Appendix H, Pg. 1-9	Met

ELEMENT D REQUIRED REVISIONS

No Required Revision:

Recommended Revisions:

- Would generally recommend more specifics across jurisdictions.

Element E: Plan Update

Element E Requirements	Location in Plan (section and/or page number)	Met / Not Met
E1. Was the plan revised to reflect changes in development? (Requirement 44 CFR § 201.6(d)(3))		
E1-a. Does the plan describe the changes in development that have occurred in hazard-prone areas that have increased or decreased each community's vulnerability since the previous plan was approved?	2.4. Pg 27; 4.1. Pg 50; 4.5.3.4. Pg 255-258; 5.3.2.5. Pg 264	Met

Element E Requirements	Location in Plan (section and/or page number)	Met / Not Met
E2. Was the plan revised to reflect changes in priorities and progress in local mitigation efforts? (Requirement 44 CFR § 201.6(d)(3))		
E2-a. Does the plan describe how it was revised due to changes in community priorities?	6.2. Pg 283	Met
E2-b. Does the plan include a status update for all mitigation actions identified in the previous mitigation plan?	6.3. Pg 290 and Appendix H	Met
E2-c. Does the plan describe how jurisdictions integrated the mitigation plan, when appropriate, into other planning mechanisms?	5.7. Pg 279; 7.2. Pg 333	Met

ELEMENT E REQUIRED REVISIONS

No Required Revision:

Recommended Revisions:

- Reflections on previous annual updates analyzing or measuring increased participation, successes, and challenges with plan updates.

Element F: Plan Adoption

Element F Requirements	Location in Plan (section and/or page number)	Met / Not Met
F1. For single-jurisdictional plans, has the governing body of the jurisdiction formally adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))		
F1-a. Does the participant include documentation of adoption?	Section 8, Pg 336	Not Met
F2. For multi-jurisdictional plans, has the governing body of each jurisdiction officially adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))		
F2-a. Did each participant adopt the plan and provide documentation of that adoption?	Section 8, Pg 336	Not Met

ELEMENT F REQUIRED REVISIONS		
Required: Email The new planning policy guidance states that **all** participating communities must adopt **within one-year** of the APA letter. Please send all plan adoptions to the following email: fema-r3-hm-planning@fema.dhs.gov. Please copy WVEMD on the adoption emails.		

Element G: High Hazard Potential Dams (Optional)

HHPD Requirements	Location in Plan (section and/or page number)	Met / Not Met
HHPD1. Did the plan describe the incorporation of existing plans, studies, reports and technical information for HHPDs?		
HHPD1-a. Does the plan describe how the local government worked with local dam owners and/or the state dam safety agency?	4.4.12.1.Pg 204	Met
HHPD1-b. Does the plan incorporate information shared by the state and/or local dam owners?	4.4.12.1.Pg 204	Met
HHPD2. Did the plan address HHPDs in the risk assessment?		
HHPD2-a. Does the plan describe the risks and vulnerabilities to and from HHPDs?	4.4.12.1.Pg 201	Met
HHPD2-b. Does the plan document the limitations and describe how to address deficiencies?	4.4.12.1. Pg 204	Not Met
HHPD3. Did the plan include mitigation goals to reduce long-term vulnerabilities from HHPDs?		
HHPD3-a. Does the plan address how to reduce vulnerabilities to and from HHPDs as part of its own goals or with other long-term strategies?	6.2. Pg 283-284	Not Met
HHPD3-b. Does the plan link proposed actions to reducing long-term vulnerabilities that are consistent with its goals?	4.4.12.1.Pg 204; 6.2. Pg 283-284	Not Met

HHPD Requirements	Location in Plan (section and/or page number)	Met / Not Met
HHPD4-a. Did the plan include actions that address HHPDs and prioritize mitigation actions to reduce vulnerabilities from HHPDs?		
HHPD4-a. Does the plan describe specific actions to address HHPDs?	SIP#3, Pg 298; EAP#6, Pg 312; ES/PH#12, Pg 320;	Met
HHPD4-b. Does the plan describe the criteria used to prioritize actions related to HHPDs?	6.3. Pg 284	Not Met
HHPD4-c. Does the plan identify the position, office, department or agency responsible for implementing and administering the action to mitigate hazards to or from HHPDs?	SIP#3, Pg 298; EAP#6, Pg 312; ES/PH#12 Pg. 320;	Not Met

HHPD Required Revisions

No Required Revisions:

Recommended Revisions: County is NOT currently seeking HHPD funding.

HHPD1-b. Does the plan incorporate information shared by the state and/or local dam owners?

- **Recommended Revision for HHPD Requirements: 4.4.12.1. Location and Extent (Dam Failure), Pg. 204:** In addition to the four (4) dams listed in Table 4-48, the WV GIS Technical Center (WVGISTC) data for dams include two (2) other dams: Keyes Ferry Acres Lake No. 2 and Keyes Ferry Acres Lake No. 3. It is mentioned that detailed information on these two (2) dams was not available. Please correct so that all dams are represented or provide more information on why or how that information is not available.

HHPD2-b. Does the plan document the limitations and describe how to address deficiencies?

- **Recommended Revision for HHPD Requirements: 4.4.12.1. Location and Extent (Dam Failure), Pg. 204:** While there is mention of some limited availability of information, there is no description of how to address deficiencies. Please describe how to address HHPD deficiencies.

HHPD3. Did the plan include mitigation goals to reduce long-term vulnerabilities from HHPDs?

- **Recommended Revision for HHPD Requirements: 4.4.12.1. Location and Extent (Dam Failure), Pg. 204 and 6.2 Mitigation Goals (Table 6-1):** There is no mention of HHPD, dam rehabilitation, or removal as a mitigation goal. There is mention of two dams, Izaak Walton League Dam No. 1, and Izaak Walton League Dam No. 2 are in the final stages of removal, but not cited as part of a mitigation goal. Please include mitigation goals to reduce long-term vulnerabilities from HHPDs.

HHPD4-b. Does the plan describe the criteria used to prioritize actions related to HHPDs?

- **Recommended Revision for HHPD Requirements: 6.2 Mitigation Actions and Projects:** There is no mention of criteria used to prioritize actions related directly to HHPDs. Please describe the process to evaluate and prioritize HHPD actions that are cost effective, environmentally sound, and technically feasible

HHPD4-c. Does the plan identify the position, office, department or agency responsible for implementing and administering the action to mitigate hazards to or from HHPDs?

- **Recommended Revision for HHPD Requirements: 6.2 Mitigation Actions and Projects - SIP#3, Pg. 298; EAP#6, Pg. 312; ES/PH#12, Pg. 320:** identify the position, office, department or agency responsible for implementing and administering the action to mitigate hazards to or from HHPDs. This is also cited in C5.b. required revision.

Element H: Additional State Requirements (Optional)

Element H Requirements	Location in Plan (section and/or page number)	Met / Not Met
This space is for the State to include additional requirements.		
Appendix A: Mitigation Funding Sources Appendix B: Bibliography Appendix C: Plan Review Tool Appendix D: Meeting/Participation Documentation Appendix E: HAZUS Flood Risk Report Appendix F: Critical Facilities Appendix G: FEMA Region 3 NFIP Questionnaire Appendix H: 2018 Mitigation Actions Updates	Appendix A, Pg 337; Appendix B, Pg 345; Appendix C, Pg 360; Appendix D, Pg 362; Appendix E, Pg 575; Appendix F, Pg 607; Appendix G, Pg 614; Appendix H, Pg 618	Met

Plan Assessment

These comments can be used to help guide your annual/regularly scheduled updates and the next plan update.

Element A. Planning Process

Strengths

- Meeting summaries provided.
- Robust invitation list.
- Examples of planning meeting promotion/outreach.

Opportunities for Improvement

- Community Profile
    - Recommended Revision: Introduce a summary of Environmental and Historic Preservation (EHP) considerations to discuss the number of historic sites located across the county at risk.
- A3-a. Does the plan document how the public was given the opportunity to be involved in the planning process and how their feedback was included in the plan?
    - Recommended Revision: Include the response rate of worksheets, forms, and surveys with each bullet. The last paragraph of page 44 calls out 56 responses compared to the 2018 version of the online hazard mitigation survey. This provides great visibility on community participation in planning process.
- A4-a. Recommend Revision: Within the Planning Process section clearly state what existing plans, studies, reports and technical information were reviewed for the development of the plan, as well as how they were incorporated into the document. While there are references to the 2018 plan being used in section 3 Planning Process there is not a list of resources that shaped the planning process or if any GIS tools, datasets, such as the Socially Vulnerability Index, were used to inform the process.

Element B. Risk Assessment

Strengths

- Inclusion of USDA Risk Management Agency (RMA) Federal Crop Insurance Corporation data. Provided crop insurance of over $2.5 million to farmers in Jefferson County from 2010 to 2023 for hail damage.
- Table 4-44 Number of Winter Storms Events per year
- Figure 4-1: Housing Structures Built by Decade
- Table 4-1: Recent Utility Interruptions in Jefferson County

Opportunities for Improvement

- Recommended Revision: 4.4.3.5. Future Occurrence (Extreme Temperatures), Pg. 83: "but as seen in Table 4 14, Jefferson County should be aware of a general trend of warming" Refer to required revision to add historical temperature analysis in community profile. Table 4-14 explains the thresholds for heat advisories, but not a 'general trend of warming'. While national and northeasterly projections are good, a historical analysis in the community profile on temperature would more appropriately showcase the trend.
- Recommended Revision: 4.4.3.7. Vulnerability Assessment (Extreme Temperatures), Pg. 87: "Efforts to mitigate the impacts should focus on those groups most vulnerable." What do mitigation actions look like in Jefferson County from the HMPC? Are heating/cooling centers mentioned as a mitigation action or referenced in another EOP?
- Recommended Revision: 4.4.3.8 People (Extreme Temperatures), Pg. 87: Recommend referencing SVI and census data to showcase income and poverty levels that can give reviewers an indication of those vulnerable to less adequate HVAC across the county.
- Recommended Revision: 4.4.7.1. Past Occurrence (Public Health & Pandemic), Pg. 143: Share the experience of local healthcare providers during the COVID-19 Pandemic. How was staff, bed count, and resources of medical facilities in Jefferson County stressed/tested/exceeded?
- Recommended Revision: 4.4.8.1 Location and Extent (Severe Thunderstorm & Hail Storm), Pg. 152: There are no details on the location/extent of these storms in the county, only a broad mention of them being throughout. Recommend using the past occurrences to inform how these storms impact the local jurisdictions more broadly.
- Recommended Revision: 4.4.8.2 Past Occurrence (Severe Thunderstorm & Hail Storm), Pg. 153: "89 lightning events in the 55 counties across West Virginia between 1950 and 2021." Is there data available for Jefferson County?
- Recommended Revision: 4.4.8.2 Past Occurrence (Severe Thunderstorm & Hail Storm), Pg. 154: No damages were claimed except from Harpers Ferry in 1993 and 2004. Was this because of damage to historical properties?
- Recommended Revision: 4.4.9.5 Vulnerability Assessment (Severe Wind & Tornado), Pg. 172: Table 4-43 is helpful, but recommend a Figure that maps out the locations of manufactured/mobile home parks across the county.
- Recommended Revision: 4.4.10.2 Past Occurrence (Severe Winter Storm), Pg.180: Table 3-39: Winter Storm Events Impacting Jefferson County from 1997 to May 2023 (NCEI NOAA, 2023) – Much of this table illustrates zeros for injuries and crop damage. This could be highlighted in the 4.4.10.1 or 4.4.10.2 early paragraphs. Recommend more useful data such as snow/ice accumulation, number of closed school days or opened warming shelters.
- Recommended Revision: Community Activities Sections: These are mostly copied statements throughout the document and should only be shared in the community profile section as they do not change per hazard.

Element C. Mitigation Strategy

Strengths

- Table 6-9 Municipal Priority Mitigation Action Items is very handy. Would've liked to see replicated across all mitigation actions.

Opportunities for Improvement

All required revisions met.

Element D. Plan Maintenance

Strengths

- Annual and post-disaster reviews.
- Municipal officials will be asked to provide a mitigation action progress information each year and the Mitigation Action Plan will be updated accordingly.

Opportunities for Improvement

- Would generally recommend more specifics across jurisdictions.

Element E. Plan Update

Strengths

- References to integration and coordination with other plans is promising.

Opportunities for Improvement

- Reflections on previous annual updates analyzing or measuring increased participation, successes and challenges with plan updates.

Element G. HHPD Requirements (Optional)

Strengths

- Map labeling HHPDs.

Opportunities for Improvement

- See required revisions.

Element H. Additional State Requirements (Optional)

Strengths

- [insert comments]

Opportunities for Improvement

- [insert comments]

Appendix D: Meeting and Participation Documentation

Appendix D Table of Contents

D-1 Internal Planning Team Kickoff Meeting

D-2 HMPC Kickoff Meeting May 24, 2023
Meeting Invitations
Meeting Sign-in Sheets
PowerPoint Presentation
Meeting Worksheets
Meeting Minutes

D-3 HMPC Hazard Analysis & Risk Assessment Meeting June 27, 2023
Meeting Invitations
Meeting Sign-in Sheets
PowerPoint Presentation
Meeting Worksheets
Meeting Minutes

D-4 HMPC Mitigation Workshop July 26, 2023
Meeting Invitations
Meeting Sign-in Sheets
PowerPoint Presentation
Meeting Worksheets

D-5 HMPC / Public Open House
Meeting Invitations / Notices / Handout
Meeting Sign-in Sheets
PowerPoint Presentations

D-6 Public Survey Results

D-7 Radio Broadcast Notes Panhandle News Network WEPM/WCST & Talk Radio WRNR

D-8 JCHSEM Newsletters

D-9 Press Releases May 19 and August 21

Appendix D-1: Internal Planning Team Kickoff Meeting

Hazard Mitigation Plan Update Planning Team Kick Off

May 5, 2023 / 1:30 pm

Agenda

1. **Team Introductions**
    a. Michael Baker
    b. Smith Planning and Design
    c. Jefferson County

2. **Scope Review**
    a. Planning Process
    b. Community Profile
    c. Capability Assessment
    d. Risk Assessment
    e. Mitigation Strategy
    f. Plan Maintenance
    g. Plan Document / Adoption

3. **Planning Team Members & Meeting Schedule**

4. **Project Milestones and Deliverables**

5. **State and FEMA Involvement**
    State
    a. Gabriel Reek gabriel.a.reed@wv.gov
    b. Ginger Barnett ginger.sc.barnett@wv.gov
    FEMA
    c. Meesh Zucker michelle.zucker@fema.dhs.govteering
    d. Matt McCullough matthew.mccullough@fema.dhs.gov

6. **Committee Members & Meeting Schedule**

7. **Meeting Location Venues**

8. **Major Planning Changes**
    a. Local, County, and State Changes
    b. FEMA Guidance

9. **County Website – Plan Updates**
    a. Jefferson County All Hazards Mitigation Plan

10. **Plan Format and Design – County Logo needed**

11. **Data Request**
    a. GIS Data
    b. Planning / Policy Documents

12. Risk Assessment – 2018 Hazards

a. Confirmation of Identified Hazards
b. Civil Disturbance
c. Dam Failure
d. Drought
e. Earthquake
f. Extreme Temperatures
g. Flood
h. Hazardous Materials
i. Infestation
j. Land Subsidence
k. Landslide
l. Public Health / Pandemic
m. Severe Thunderstorm and Hail Probable
n. Severe Wind and Tornado
o. Severe Winter Storm Occasional
p. Terrorism
q. Wild and Urban Fires

13. Next Steps

Hazard Mitigation Plan Update Planning Team Kick Off Meeting Notes

May 5, 2023 / 1:30 to 3:00 pm

- **Attendees**
  - Steve Allen
  - Dick Myers
  - Wes Stafford
  - Mark James
  - Jeffery Cragle
  - Virginia Smith (phone)

- **Scope Review**
  - The scope of work that was attached to the April 11 Agreement_Jefferson County HMP_041123.docx was reviewed by MBI TEAM. Details on each section of the scope was presented.
  - Question raised regarding inclusion of high hazard dam and CRS. MBI TEAM will update the Dam Failure hazard to include additional information for this plan update, thereby assisting the County in obtaining CRS points.
  - Red Cross planning committee member will need to be replaced - JC will reach out & get new contact

- **Committee Members & Meeting Schedule**
  - JC will update 2018 planning committee member list with new members and provide to MBI TEAM on May 8 COD.
  - Joint effort between MBI TEAM and JC to reach out to new regional committee participants that will be needed to meet new policy requirements.
  - Planning Committee Monthly Meetings will be Hybrid and held on the fourth Tuesday of each Month starting at 1PM. Opportunity to have overnight with planning team workshop next day if needed.
    - First Meeting, Project Kickoff - 1.5 hours
    - Second Meeting, Hazard Analysis / Risk Assessment - 2 hours
    - Third Meeting, Mitigation Strategy Development - 4 hours
    - Fourth Meeting, Draft Plan Review - 2 hours

- **Project Milestones and Deliverables**
  - Milestones and deliverables will be in line with the monthly committee meetings. Delivery of plan sections will be coordinated with State and FEMA review staff to reduce the review time anticipated at plan completion. State and FEMA officials will also be invited to participate in monthly committee meetings to expedite the review process.

- **State and FEMA Involvement**

  State
  - Gabriel Reed gabriel.a.reed@wv.gov
  - JC to ask Gabriel Reed during ASFPM meeting schedule for May 16 through May 18

  FEMA
  - Meesh Zucker michelle.zucker@fema.dhs.gov
  - Matt McCullough matthew.mccullough@fema.dhs.gov

- MBI TEAM to reach out to Troy Truax for Region 3 POC that reviewed the Berkeley & Morgan County Plan. As a back up MBI TEAM will contact Matt McCullough for direction.

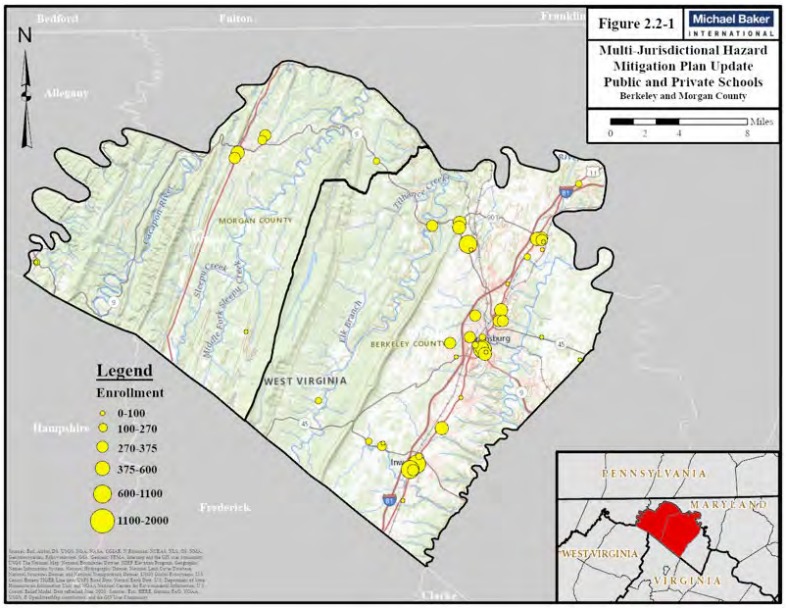
- **Meeting Location Venues**
  - Two potential locations - Hospice of the Panhandle 330 Hospice Ln, Kearneysville, WV
  - Civic Center if a bigger space is needed

- **Major Planning Changes**
  - Local, County, and State Changes
  - FEMA Guidance

- **County Website – Plan Updates**
  - Jefferson County All Hazards Mitigation Plan will be used to post plan updates, public surveys and press releases.
  - MBI TEAM will produce press release for project start up and provide to JC by May 10. The press release will direct the public to the County website for updates and list planning committee meeting schedule.
  - Updates and plan schedule will also be posted to designated social media outlets.

- **Plan Format and Design**
  - Plan will be formatted similar to the Berkeley & Morgan County plan that MBI TEAM produced in 2022.
  - Use County logo and colors

- **Data Request**
  - GIS Data
  - Agreed on Map template that was used in the Berkley & Morgan Plan.
  - Planning / Policy Documents
    - MBI TEAM will continue to search our County and Regional plans to be included



- **Risk Assessment – 2018 Hazards**
  - Review Berkley Morgan Plan to match hazard types

- Confirmation Recommended Hazards
    - Civil Disturbance
    - Dam Failure
    - Drought
    - Earthquake
    - Extreme Temperatures
    - Flood
    - Hazardous Materials
    - Infestation
    - Land Subsidence
    - Landslide
    - Public Health
    - Severe Thunderstorm and Hail Probable
    - Severe Wind and Tornado
    - Severe Winter Storm Occasional
    - Terrorism
    - Wild and Urban Fires
- Add Pandemic to Public Health
- Add Electrical Supply
- Consider including Reunification (for schools and businesses)
- Add Surface Water Supply to Drought

Appendix D-2: HMPC Kickoff Meeting, May 24, 2023

James, Mark

To: commissioner.ath@gmail.com; sallen@jeffersoncountywv.org; ashultz@ctubwv.com; jimauxer@yahoo.com; abeall@shepherdstown.us; mayor@harpersferrywv.us; sgrove@shepherdstown.us; bcaton@k12.wv.us; nfernandes@apus.edu; clerk@shepherdstown.us; jesse.hott@redcross.org; jbrockman@jeffersoncountywv.org; jbrown@harpersferrywv.us; joe.taylor@csx.com; bburns@jeffersoncountywv.org; tbutch2@firstenergycorp.com; mcarter@jeffersoncountywv.org; keith_mantheiy@fws.gov; spardis@harpersferrywv.us; rsnavely@region9wv.com; brmvfcchief@frontiernet.net; jfreund@kentcartridge.com; jhdettmer@comcast.net; terrence.j.reidy@wv.gov; ebenites@jcda.net; mvosika@kentcartridge.com; awatson@ifcwv.org; thansen@jeffersoncountywv.org; salsamurai@gmail.com; stephanie.a.rosier@wv.gov; ckuthcer@charlestownwv.us; cfcfirechief2@gmail.com; gino.e.sisco@wv.gov; hfrye@shepherd.edu; laura.gatto@pngaming.com; rgoodwin@jeffersoncountywv.org; mgoldman9797@gmail.com; jgormont@jeffersoncountywv.org; donald.grubb@wvumedicine.org; chorn@jcesa.org; george.s.butler@cbp.dhs.gov; mzonifrilli@jeffersoncountywv.org; joyce.a.white@k12.wv.us; william.m.weikle@wv.gov; ryan_levins@nps.gov; jeffcoswa@gmail.com; alan.f.marchun@wv.gov; andrea.thomas@amwater.com; Paula@gsivc.org; lmaraugh@shepherd.edu; middlewayvfc@aol.com; rosslmorgan61@aol.com; compujedijp@yahoo.com; kparsons@nicholsdehaven.com; mpennington@downstreamstrategies.com; dpierson@ransonwv.us; jpolczynski@jeffersoncountywv.org; lkuhn@jeffersoncountywv.org; msine@jcesa.org; btrainor@charlestownwv.us; rroberts@ransonwv.us; jwells@bsrinc.com; jmsctwv@fronterinet.net; eshuler@shepherd.edu; ronnieshutts@yahoo.com; esmithc4@frontiernet.net; frittsbradley@gmail.com; smoot.stephen@gmail.com; lsnyder@snyderenv.com; bsotomayor@fs.fed.us; christopher.strong@noaa.gov; vinemont.farm@gmail.com; dmyers@jeffersoncountywv.org; nathan.b.ware@wv.gov; fwelch@shepherdstown.us; emily.wells@mail.wvu.edu; sanford.h.green@wv.gov; monica.a.whyte@wv.gov; lwilling@k12.wv.us; twilt@ransonwv.us; stolipherjcc@gmail.com; commissioner.triciajackson@gmail.com; jcckrouse@gmail.com

Cc: Stafford, Wesley; Hicks, Sheila; Cragle, Jeffrey; Virginia Smith; Michele King

Subject: 2023 Jefferson County Hazard Mitigation Plan Update - Hazard Mitigation Committee Invite

Attachments: 2023 Jefferson County Hazard Mitigation Plan Update - Committee Kick-off Meeting ; Jefferson County Consultant Team.docx; Jefferson County HMP Kick-Off Meeting - Agenda.docx

Good day,

My name is Mark James, I am the Project Manager for the 2023 Jefferson County Hazard Mitigation Plan Update. Michael Baker and Smith Planning and Design are pleased to win this contract and are excited to begin work. As an introduction to our team, I have attached a staff summary.

You have been selected by the Jefferson County Office of Homeland Security and Emergency Management to participate as a hazard mitigation committee member for the duration of the plan update. This process will take approximately 5 months and involve monthly meetings. The kick-off meeting has been scheduled for May 23, 2023, from 1-2:30 PM. We will meet at Hospice of the Panhandle located at 330 Hospice Ln, Kearneysville, WV. This will be an in-person meeting, however a virtual option will be available. Attached to this email is a copy of the agenda and an invite for virtual participants.

We would like to welcome back members that participated in the 2018 Jefferson County Hazard Mitigation Plan update and for those that are new to the process I have provided a weblink to the plan.

Please RSVP if you are unable to attend, I will forward you a summary of information after the meeting. If you have any questions in the meantime, feel free to email me. We look forward to meeting you.

Thank you,

Mark James

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Jefferson County Homeland Security and Emergency Management
28 Industrial Boulevard
Kearneysville, WV 25430
Phone: 304-728-3329 or 304-728-3290
Fax: 304-728-3320

Last Update 5/9/2023
Hazard Mitigation and Risk Assessment

Name (PRINT)	Signature	Agency	Phone	E-mail
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Ath, Clare		Jefferson County Commission		commissioner.ath@gmail.com
Auxer, Jim		City of Shepherdstown	(304) 876-2398	jimauxer@yahoo.com
Beall, Andy	Down Virtual	City of Shepherdstown	(304) 876-6858	abeall@shepherdstown.us
Benites-Im, Edwina		Jeff. Co. Development Authority	(304) 728-3255	ebenites@jcda.net
Boyd, Amy		City of Shepherdstown	(304) 876-2398	clerk@shepherdstown.us
Brockman, Jennie		JC Planning and Zoning	(304) 728-3228	jbrockman@jeffersoncountywv.org
Brown, J.D.		Harpers Ferry Police Department	(304) 535-6366	jbrown@harpersferrywv.us
Burns, Becky		JC Engineering Department	(304) 728-3257	bburns@jeffersoncountywv.org
Butcher, Thomas		Potomac Edision	(304) 671-3860	tbutch2@firstenergycorp.com
Butler, George		CBP/ATC	304-724-5834	george.s.butler@cbp.dhs.gov
Carter, Mason		JC Engineering Department	(304) 728-3257	mcarter@jeffersoncountywv.org
Caton, Brandon		Jefferson County BOE	304-725-5711	bcaton@k12.wv.us
Cogel, Earl		Blue Ridge Fire Company	(304) 616-8557	brmvfcchief@frontiernet.net
Dettmer, Helen		Town of Bolivar	(304) 535-2476	jhdettmer@comcast.net
Edwards, Sallie		Volunteer	(808) 285-2165	salsamurai@gmail.com
Fernandes, Nuno		American Public University	(877) 755-2787	nfernandes@apus.edu
Freund, Jon		Kent Cartridge	(304) 724-3670	jfreund@kentcartridge.com
Fritts, Bradley		Bakerton Fire Company	(304) 866-1298	frittsbradley@gmail.com
Frye, Holly Morgan		Shepherd University	(304) 876-5402	hfrye@shepherd.edu
Gatto, Laura		Hollywood Casino	(304) 724-4342	laura.gatto@pngaming.com
Goldman, Michele		JC COAD	(540) 539-0498	mgoldman9797@gmail.com

Goodwin, Roger		JC Engineering Dept.	(304) 728-3256	rgoodwin@jeffersoncountywv.org
Gormont, Jessica		Jefferson County GIS	(304) 724-8986	jgormont@jeffersoncountywv.org
Green, Sanford		WVDHSEM	(304) 558-5380	sanford.h.green@wv.gov
Grove, Stephanie	Dwm Virtual	City of Shepherdstown	304-870-4331	sgrove@shepherdstown.us
Grubb, Donnie		WVU Medicine	(304) 596-5100	donald.grubb@wvumedicine.org
Hansen, Tom		JC Sheriff's Dept.	(304) 728-3205	thansen@jeffersoncountywv.org
Herbst, Larry Jr.		Citizens Fire Company	304-995-7674	cfcfirechief2@gmail.com
Horn, Craig		JC Emergency Services Agency	(304) 839-6319	chorn@jcesa.org
Hott, Jesse		American Red Cross	(304) 588-0724	jesse.hott@redcross.org
Jackson, Tricia		Jefferson County Commission		commissioner.triciajackson@gmail.com
Krouse, Jennifer		Jefferson County Commission	304-404-7878	icckrouse@gmail.com
Kuhn, Laura		JC Maintenance Department	(304) 728-3355	lkuhn@jeffersoncountywv.org
Kutcher, Chris		Charles Town Police Department	304-725-2714	ckutcher@charlestownpolice.com
Levins, Ryan		Harpers Ferry NHP	(304) 535-6232	ryan_levins@nps.gov
Mantheiy, Keith		US Fish and Wildlife Service	(304) 876-7224	keith_mantheiy@fws.gov
Maraugha, Lori		Shepherd University	(304) 876-5374	lmaraugh@shepherd.edu
Marchun, Alan		WV Public Health		alan.f.marchun@wv.gov
Marrone-Reese, Paula		Good Shepherd Inter-Faith	(304) 876-3325	Paula@gsivc.org
Mood, Michael		Middleway Fire Company	(304) 582-0204	middlewayvfc@aol.com
Morgan, Ross		Shepherdstown Fire Company	(304) 876-2311	rosslmorgan61@aol.com
Morrow, Emily		WVU Extension Service	(304) 728-7413	emily.wells@mail.wvu.edu
Myers, Dick	Dick Myers	Jefferson County OHSEM	304-728-3329	dmyers@jeffersoncountywv.org
Paradis, Steve		Harpers Ferry Water Works	(304) 676-2317	sparadis@harpersferrywv.us
Parkin, Jonnie		Volunteer	(540) 287-3481	compujedijp@yahoo.com
Parsons, Kelly	Dwm Virtual	Nichols, Dehaven & Associates	(304) 725-6525	kparsons@nicholsdehaven.com
Pennington, Matt		Downstream Strategies	(304) 707-1920	mpennington@downstreamstrategies.com
Pierson, Duke		City of Ranson	(304) 724-1010	dpierson@ransonwv.us

Polczynski, Jeff		JC Emergency Communications	(304) 278-3317	jpolczynski@jeffersoncountywv.org
Reidy, Terrence		Jeff. Co. Health Department	(304) 728-8416	terrence.j.reidy@wv.gov
Roberts, Robbie		Ranson Police Department	(304) 728-5186	rroberts@ransonwv.us
Rosier, Stephanie		WVEMD	304-558-5380	stephanie.a.rosier@wv.gov
Schwartz, Jeff		JC Solid Waste Authority	(304) 725-8082	jeffcoswa@gmail.com
Sherwood, John		Volunteer	(304) 728-0180	jmsctwv@frontiernet.net
Shuler, Eric		Shepherd University	(304) 876-5644	eshuler@shepherd.edu
Shultz, April		Charles Town Utilities	(304) 725-2316	ashultz@ctubwv.com
Shutts, Ronnie		Friendship Fire Company	(304) 283-1560	ronnieshutts@yahoo.com
Sine, Mike		JC Emergency Services Agency	(304) 728-3287	msine@jcesa.org
Sisco, Gino		Jeff. Co. Health Department	(304) 728-8416	gino.e.sisco@wv.gov
Smith, Ed		Independent Fire Company	(304) 279-2938	esmithc4@frontiernet.net
Smooth, Stephen		Rep. Alex Mooney's Office	(304) 264-8810	smoot.stephen@gmail.com
Snavely, Rachel		Region 9	(304) 263-1973	rsnavely@region9wv.com
Snyder, Lee		Snyder Enviromental	(304) 725-9140	lsnyder@snyderenv.com
Sotomayor, Ben		Harpers Ferry Job Corps	(304) 724-3474	bsotomayor@fs.fed.us
Stolipher, Steve		Jefferson County Commission	304-278-4212	stolipherjcc@gmail.com
Strong, Chris		National Weather Service	(571) 888-3500	christopher.strong@noaa.gov
Tabb, Jane		Jefferson County Commission	(304) 671-1213	vinemont.farm@gmail.com
Taylor, Joe		CSX	800-232-0144	joe.taylor@csx.com
Thomas, Andrea		American Water	(304) 340-2047	andrea.thomas@amwater.com
Trainor, Bob		City of Charles Town	(304) 724-3254	btrainor@charlestownwv.us
Vaughn, Gregory		Town of Harpers Ferry	(304) 535-2206	mayor@harpersferrywv.us
Vosika, Matt	In Person	Kent Cartridge		mvosika@kentcartridge.com
Ware, Nathan		WV Dept. of Highways	(304) 725-5821	nathan.b.ware@wv.gov
Watson, Adam		Independent Fire Company	(304) 279-4774	awatson@ifcwv.org

Weikle, Mason		Jeff. Co. Health Department	(304) 728-8416	william.m.weikle@wv.gov
Welch, Frank		Shepherdstown Water	(304) 876-3322	fwelch@shepherdstown.us
Wells, John		Summit Point Raceway	(304) 725-7614	jwells@bsrinc.com
White, Joyce	Virtual	JC Board of Education	(304) 728-9265	joyce.a.white@k12.wv.us
Whyte, Monica		WV Health Department	(304) 725-9453	monica.a.whyte@wv.gov
Willingham, Larry		JC Board of Education	(304) 671-3927	lwilling@k12.wv.us
Wilt, Todd		City of Ranson	(304) 279-4151	twilt@ransonwv.us
Zonfrilli, Makayla		Jefferson County Administator	304-728-3281	mzonifrilli@jeffersoncountywv.org
KHANAL, SURAJ		CBP / ATC		Suraj.Khanal@cbp.dhs.gov.
JENKINS, W. ANDREW		CBP / ATC	304-839-1930	WARREN.A.JENKINS@CBP.DHS.GOV
PIPPEL, Jeff		JEFFERSON UTILITIES	304-728-2077	JPIPPEL@JUIWATER.NET

Hazard Mitigation Kickoff Meeting
May 24th, 2:30

Michael Baker INTERNATIONAL

SP&D

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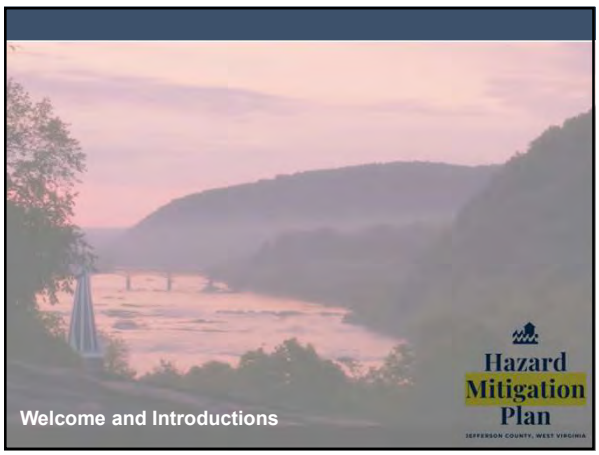
Agenda

- Welcome and Introductions
- Planning Process
- Risk Assessment Overview and Hazard Review
- Capability / Capacity Assessment
- Five-Year Plan Review
- Next Steps and Action Items

2



3

Welcome and Introductions

- All attendees are currently muted to reduce background noise.
- Submit your questions at any time during the presentation by:
  - Using the "Chat"
- We will be recording this meeting to share with anyone unable to attend

REC

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Welcome and Introductions

For virtual meeting participants, please let us know you are here!

- Please submit your name and municipality or organization by:
  1. Using the "Chat" **or**
  2. Email sheila.hicks@mbakerintl.com

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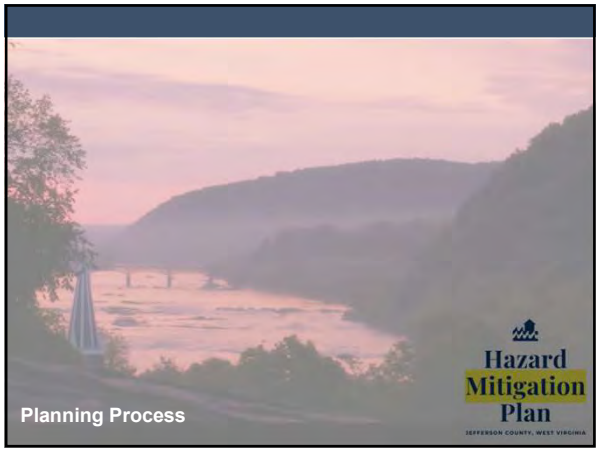

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What is a Hazard Mitigation Plan?

- A Hazard Mitigation Plan (HMP) is a community-driven, living document that communities use to reduce their vulnerability to hazards.
- Counties must have a plan to maintain access to mitigation grants. These grants can augment local mitigation activities already being accomplished and can leverage other funding sources.

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HMP Components

2018 Hazard Mitigaiton Plan

- Introduction
  - Planning Process
  - Planning Area
  - Development Trends
- Risk Assessment
  - Hazard Overview
  - Calculating Risk
  - Vulnerability
  - Hazard Profiles
  - Cascading Effects
  - Asset Inventory
- Mitigation Strategy
  - Mitigation Goals
  - Mitigation Actions
  - Mitigation Actions Status
- The 5-Year Cycle
  - Plan Maintenance
  - Implementation Through Existing Programs
  - Continued Public Involvement

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Planning Process

- Plan Development and Participation
- Hazard Mitigation Planning Committee
- Sub-Committee Opportunities
- Meetings (Every 4th Tuesday)
  - **Kick-Off:** May 24th - 1.5 hours
  - **Hazard Analysis / Risk Assessment :** June 27th - 2 hours
  - **Mitigation Strategy:** July 25th – 4 hours
  - **Draft Plan Review:** August 22nd – 2 hours
- Public and Stakeholder Participation
- Obtain Mitigation Plan State and Federal Approval and Adoption

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Hazard Mitigation Committee

- State Agency Officials
- Municipal & County Department Officials
- Non-Government Stakeholders
- **Suggestions?**

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Meeting Participation Requirements

- Attend Meetings
- Provide Local Information
- Develop Mitigation Actions

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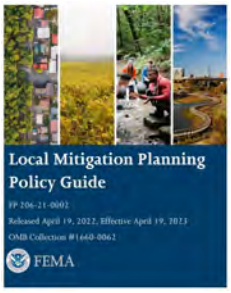
New for the 2023 Update



- Inclusion of Equity and Climate Change
- Enhanced HAZUS Analysis
- Expand upon Capability Assessment and Plan Integration

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Plan Maintenance

- Monitor, Evaluate & Update the Plan
- Incorporate into Other Planning Mechanisms
- Continued Public Involvement

2023 Jefferson County Hazard Mitigation Plan Update

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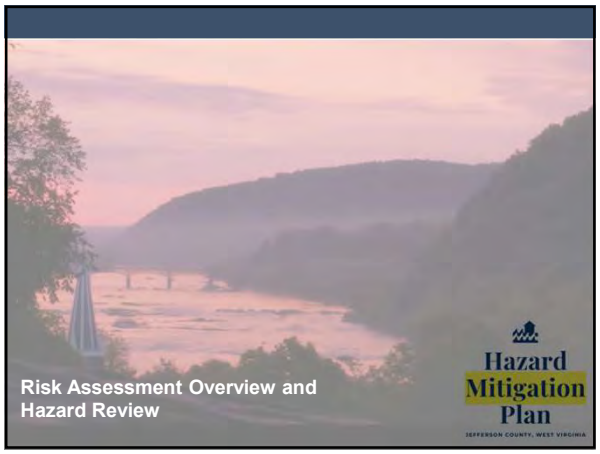

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Risk Assessment

- Identify Hazards – Previous & New
- Profile Hazards
- Rank Hazards
- Assess Vulnerability

- Hazard Profile Includes:
  - Location and Extent
  - Range of Magnitude
  - Past Occurrence
  - Future Occurrence
  - Vulnerability Assessment

Floodplain map from the 2018 Jefferson County Comprehensive Plan

2023 Jefferson County Hazard Mitigation Plan Update

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2018 Hazard Identification

Natural Hazards in the 2018 HMP	
Drought	Landslide
Earthquake	Public Health
Extreme Temperatures	Severe Thunderstorm and Hail
Flood	Severe Wind and Tornado
Infestation	Severe Winter Storms
Land Subsidence	Wild & Urban Fires

Human-Made Hazards in the 2018 HMP	
Civil Disturbance	Hazardous Materials
Dam Failure	Terrorism

Are there any additional hazards we should profile in the 2018 HMP Update?

2023 Jefferson County Hazard Mitigation Plan Update

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Exercise 1: Hazard-Risk Evaluation

- This exercise allows you to evaluate previously profiled hazards and to identify any new hazards that may exist.
  - PART I: Note any changes in frequency, magnitude or geographic extent by placing a "NC", "I" or "D" in the 2nd column.
  - PART II: Evaluate list of hazards NOT profiled in existing HMP.

2023 Jefferson County Hazard Mitigation Plan Update

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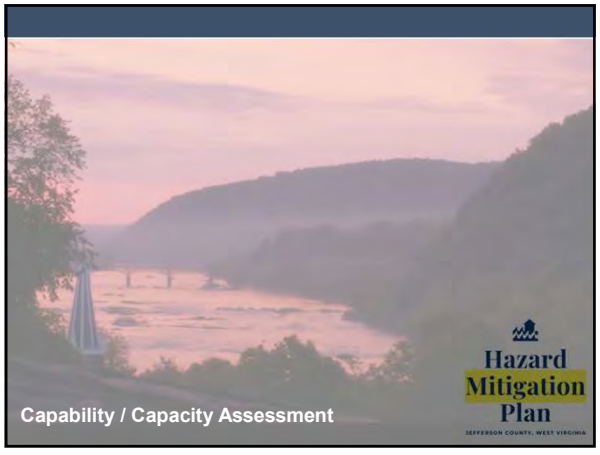

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Capability Assessment

Land use map from the 2018 Jefferson County Comprehensive Plan

- Planning and Regulatory
- Administrative and Technical
- Financial
- Education and Outreach
- Participation in the NFIP
- Plan Integration

2023 Jefferson County Hazard Mitigation Plan Update

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Exercise 2: Capability Assessment

- Capability Assessment Survey
  - Information used to evaluate jurisdictional capabilities and plan development

2023 Jefferson County Hazard Mitigation Plan Update

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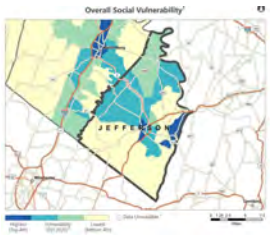
Equity & Social Vulnerability



- FEMA defines **equity** as the consistent and systematic fair, just and impartial treatment of all individuals.
- **Social vulnerability** refers to the potential negative effects on communities caused by external stresses on human health.
- The mitigation plan is an opportunity to reduce risk in all communities.

2023 Jefferson County Hazard Mitigation Plan Update

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Exercise 3: Equity & Social Vulnerability

- Equitable Services Survey
  - Shifts in the Needs
  - Included Social Equity and/or Vulnerability into Planning or Services
  - Known Areas of Social Vulnerability

2023 Jefferson County Hazard Mitigation Plan Update

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Exercise 4: NFIP Community Questionaire

- Jefferson County, FEMA FIRM, effective date - December 18, 2009.
- Floodplain Management Ordinance language – Compliant with the current FIRM and FIS and available online at the County's website www.mapwv.gov/flood/map

2023 Jefferson County Hazard Mitigation Plan Update

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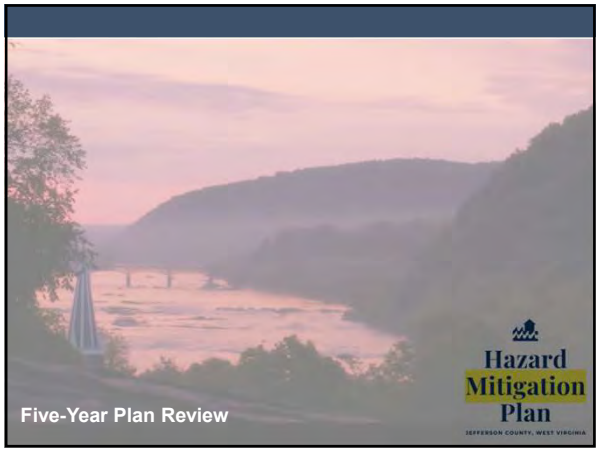

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Five-Year Plan Review

- How has the nature of hazard risk changed in the last five years? Is there new development?
- Are the current resources to implement mitigation actions sufficient?
- Are the fiscal, administrative, political, public support, capability, sufficient?
- Overall, what are the biggest obstacles to completing mitigation actions?

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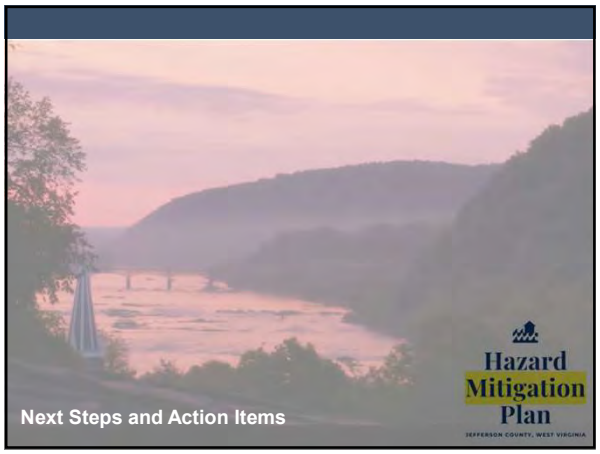

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Stay Engaged

- Visit https://www.jeffersoncountywv.org/county-government/departments/homeland-security-and-emergency-management
- Online home of the planning process

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Schedule and Meetings

Task	Dates
Full Project Timeline	May 2023 – September 2023
Kick Off Meeting	May 24, 2023 (TODAY)
Hazard Analysis / Risk Assessment	June 27 (Scheduled) – 2hrs
Mitigation Strategy	July 25 – 4hr Workshop
Plan Writing	June – August
Draft Plan Review Public Meeting	August 22 – 2hrs
Deliver to WVEMD/FEMA for Review	August 1 and September 1
Distribute to Municipalities for Adoption	December

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Action Items

- Hazard Mitigation Committee
  - Completed Hazard Risk Evaluation
  - Complete Capability Assessment
  - Monitor Project Updates on County Website
- Project Planning Team
  - Update Project on County Website
  - Distribute Data Requests

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Thank You

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Jefferson County Homeland Security and Emergency Management
sallen@jeffersoncountywv.org
(304) 728-3290

Dick Myers, Deputy Director
Jefferson County Homeland Security and Emergency Management
dmyers@jeffersoncountywv.org
(304) 728-3329

Mark James, CFM
Michael Baker International
mark.james@mbakerintl.com
(443) 938-0479

Virginia Smith, AICP
Smith Planning and Design
vsmith@smithp-d.com
(301) 724-7611

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Evaluation of Identified Hazards and Risk

PART I: Identified Hazards

Identified Hazards (2018 HMP)	**Change in Frequency of Occurrence, Magnitude of Impact, and/or Geographic Extent?** **NC**=No Change **I**=Increase **D**=Decrease	**Additional Comments (Explanation for marked I or D)**
Natural		
Drought	I	Climate Change (Greater Chance) Decrease in Water Levels
Earthquake	NC	
Extreme Temperatures	I	Climate Change (More Frequent and Longer)
Flood	I	Climate Change (More Extreme)
Infestation	NC	
Land Subsidence	I	Increase in Sinkholes
Landslide	I	Rockslides in Harpers Ferry
Public Health & Pandemic	I	Covid Pandemic Threat of Homemade Viruses Increase Cases of Diabetes & Mental Health (see Community Needs Assessment)
Severe Thunder & Hailstorm	I	Climate Change (More Frequent)
Severe Wind & Tornado	I	Climate Change (More Frequent and Stronger)
Severe Winter Storm	D	Climate Change (Getting Warmer – No Snow & Shorter Winters)
Wild & Urban Fires	I	Brush Fires – Increase in Temperatures Drought Dependent
Human-Made		
Dam Failure	NC	
Civil Disturbance	I	Politically Motivated Drive by Protests and Demonstrations
Hazardous Materials	I	Increased Awareness & Increase in Population Exposed to Industry PFAS/PFOA has caused public concern
Terrorism	I	Increased Threat Electrical Grid Targeted Rockwool Factory Targeted

PART II: Other Hazards

Do any of these hazards, not previously profiled in the County's hazard mitigation plan, have the potential to affect your community significantly and require focused mitigation efforts? *(If so, check box)*

Natural

4 Votes	Karst/Sinkholes
1 Vote	Radon Exposure
2 Vote	Invasive Species

Human-made

0 Votes	Building or Structure Collapse
1 Vote	Animal Feed Contamination
0 Votes	Mining Hazards
4 Votes	Utility Interruption
0 Votes	Reunification

Other Comments

Include Cyber Security

Refugee - Influx of people if Disaster in Baltimore/Washington

Closure of Rt 340 to remove rock walls

Capability Assessment Survey

Community/Organization:	Jefferson County
Name and Title:	Emergency Management

Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update if known.

Tool/Program	Status		
	In Place	Adopted or Updated	Under Development / Comments
Hazard Mitigation Plan	Y	2018	Yes - 2023
Emergency Operations Plan	Y	2017	
Capital Improvement Plan	Y	2022	Yes - 2023
Continuity of Operations Plan	Y	2012	
Floodplain Management Ordinance	Y	2009	
Zoning Regulations	Y	Amended 2022	Zoning and Land Development Ordinance
Subdivision Regulations	Y	Amended 2018	Subdivision and Land Development Ordinance
Comprehensive Plan	Y	2022	No (current-completed in 2022)
Stormwater Management Plan	Y	2014	Stormwater Management Ordinance
Natural Resource Protection Plan			
Continuity of Operations Plan	Y	2012	
Parks and Recreation Plan	Y	2016	Also have a Tree Canopy Plan, 2011
Hazardous Waste Assessment	Y	2017	Also have a Propane and Tier II Risk Assessment, plus Commodity Flows
Firewise Community			
Storm Ready	Y	In place since 2004	
Citizen Corps	Y	In place since 2001	
Building Code	Y		Building Permit Ordinance 2022

Available Staff and Technical Assistance:

Please indicate whether your jurisdiction has the following personnel resources on-staff or available to assist with hazard mitigation efforts.

Staff or Personnel Resource	Yes	No	Department or Staff Member	Comments
Land Use/Development Planning	X			
Engineering	X			
Emergency Manager	X			
Floodplain Manager	X			
Staff with experience using Geographic Information Systems software	X			
Grant-writing staff or other fiscal staff				

Self-Assessment of Capability:

Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in other sections of this survey.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability			
Administrative and Technical Capability			
Fiscal Capability			
Community Political Capability			

Capability Assessment Survey

Community/Organization:	Charles Town
Name and Title:	

Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update if known.

Tool/Program	Status		
	In Place	Adopted or Updated	Under Development / Comments
Hazard Mitigation Plan	Y		Use Jefferson County Plan
Emergency Operations Plan			
Capital Improvement Plan	Y		
Continuity of Operations Plan			
Floodplain Management Ordinance	Y		Administration of federal, state & local floodplain regulations
Zoning Regulations	Y		Reviews projects for design and compliance with Zoning Ordinance
Subdivision Regulations	Y		Reviews projects for design and compliance with Subdivision Ordinance
Comprehensive Plan	Y	2018	
Stormwater Management Plan	-		Administration of federal, state & local stormwater regulation
Natural Resource Protection Plan			
Continuity of Operations Plan			
Parks and Recreation Plan	-	2016	Board of Parks & Rec - Walkability and Connectivity Study
Hazardous Waste Assessment			
Firewise Community			
Storm Ready			
Citizen Corps			
Building Code	Y		Processing building permits and regulating compliance with existing property maintenance codes

Please email completed forms to mark.james@mbakerintl.com

Available Staff and Technical Assistance:

Please indicate whether your jurisdiction has the following personnel resources on-staff or available to assist with hazard mitigation efforts.

Staff or Personnel Resource	Yes	No	Department or Staff Member	Comments
Land Use/Development Planning	X		James Newman	
Engineering		X		
Emergency Manager		X		
Floodplain Manager		X		Use 3rd Party for Plan Reviews
Staff with experience using Geographic Information Systems software	X			Defer to County
Grant-writing staff or other fiscal staff	X		Finance Department	

Self-Assessment of Capability:

Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in other sections of this survey.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability		X	
Administrative and Technical Capability	X		
Fiscal Capability		X	
Community Political Capability		X	

Available Staff and Technical Assistance:

Please indicate whether your jurisdiction has the following personnel resources on-staff or available to assist with hazard mitigation efforts.

Staff or Personnel Resource	Yes	No	Department or Staff Member	Comments
Land Use/Development Planning		X		
Engineering		X		
Emergency Manager				Jefferson County
Floodplain Manager				Jefferson County
Staff with experience using Geographic Information Systems software		X		
Grant-writing staff or other fiscal staff				

Self-Assessment of Capability:

Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in other sections of this survey.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability	X		
Administrative and Technical Capability	X		
Fiscal Capability	X		
Community Political Capability	X		

Capability Assessment Survey

Community/Organization:	Ranson
Name and Title:	Reiley Stanley – Community Development Department Director

Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update if known.

Tool/Program	Status		
	In Place	Adopted or Updated	Under Development / Comments
Hazard Mitigation Plan			
Emergency Operations Plan			
Capital Improvement Plan			
Continuity of Operations Plan			
Floodplain Management Ordinance			
Zoning Regulations	Y		Zoning ordinance in place
Subdivision Regulations	Y		
Comprehensive Plan	Y	2012	
Stormwater Management Plan	Y		Stormwater ordinance in place
Natural Resource Protection Plan			
Continuity of Operations Plan			
Parks and Recreation Plan	Y		Department of Parks and Recreation
Hazardous Waste Assessment			
Firewise Community			
Storm Ready			
Citizen Corps			
Building Code	Y		

Please email completed forms to mark.james@mbakerintl.com

Available Staff and Technical Assistance:

Please indicate whether your jurisdiction has the following personnel resources on-staff or available to assist with hazard mitigation efforts.

Staff or Personnel Resource	Yes	No	Department or Staff Member	Comments
Land Use/Development Planning	X		Reiley Stanley	
Engineering		X		
Emergency Manager	X		Bill Silvears	
Floodplain Manager	X		Reiley Stanley	
Staff with experience using Geographic Information Systems software	X		Reiley Stanley	
Grant-writing staff or other fiscal staff	X		Todd Unit	

Self-Assessment of Capability:

Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in other sections of this survey.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability			X
Administrative and Technical Capability			X
Fiscal Capability			X
Community Political Capability		X	

Capability Assessment Survey

Community/Organization:	Shepherdstown
Name and Title:	Frank Welch

Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update if known.

Tool/Program	Status		
	In Place	Adopted or Updated	Under Development / Comments
Hazard Mitigation Plan	X		
Emergency Operations Plan	X		
Capital Improvement Plan	X		
Continuity of Operations Plan	X		
Floodplain Management Ordinance	X		
Zoning Regulations	X		
Subdivision Regulations			
Comprehensive Plan	X		
Stormwater Management Plan	X		
Natural Resource Protection Plan			
Continuity of Operations Plan			
Parks and Recreation Plan	X		
Hazardous Waste Assessment			
Firewise Community			
Storm Ready	X		
Citizen Corps			
Building Code	X		

Please email completed forms to mark.james@mbakerintl.com

Capability Assessment Survey

Community/Organization:	Harpers Ferry
Name and Title:	

Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update if known.

Tool/Program	Status		
	In Place	Adopted or Updated	Under Development / Comments
Hazard Mitigation Plan	Y	2018	County Hazard Mitigaiton Plan
Emergency Operations Plan	Y		County Comprehensive Plan
Capital Improvement Plan			
Continuity of Operations Plan			
Floodplain Management Ordinance	Y		Region 9
Zoning Regulations	Y		Board of Zoning Appeals
Subdivision Regulations			Under review by Planning Commission
Comprehensive Plan	Y	2007 / 2013	Being updated – estimated completion 01/2024
Stormwater Management Plan			Under development with WV Region 9
Natural Resource Protection Plan	Y		DNR / NPR
Continuity of Operations Plan			
Parks and Recreation Plan	Y		Parks and Recreation Commission
Hazardous Waste Assessment			
Firewise Community			
Storm Ready			
Citizen Corps			
Building Code			

Available Staff and Technical Assistance:

Please indicate whether your jurisdiction has the following personnel resources on-staff or available to assist with hazard mitigation efforts.

Staff or Personnel Resource	Yes	No	Department or Staff Member	Comments
Land Use/Development Planning	X		Andy Beall	
Engineering	X		Jeff Ekstrom	Ghosh Associates
Emergency Manager	X		Frank Welch	
Floodplain Manager		X		
Staff with experience using Geographic Information Systems software		X		Working on this at the present
Grant-writing staff or other fiscal staff	X		Stephanie Grove	Town Administrator

Self-Assessment of Capability:

Please provide an approximate measure of your jurisdiction's capability to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Using the following table, please place an "**X**" in the box marking the most appropriate degree of capability (Limited, Moderate or High) based upon best available information and the responses provided in other sections of this survey.

Area	Degree of Capability		
	Limited	Moderate	High
Planning and Regulatory Capability		X	
Administrative and Technical Capability		X	
Fiscal Capability			X
Community Political Capability			X

Social Equity Survey

Surveys Received from the following:

Jefferson County Development Authority
Jefferson County Health Department
Jefferson County Utilities Inc.

Self-Assessment of Equity:

1. Has your department, agency, or organization observed shifts in the needs of underserved communities or gaps in social equity.
Growth of Spanish speaking communities without increase in Spanish language capacity in departments

2. Has your department, agency, or organization included social equity and/or vulnerability into any of your planning or services provided?
County Development Authority study workforce populations and are beginning to collaborate with United Way – ALICE report *Environmental Justice is a part of the overall system*

Self-Assessment of Social Vulnerability:

1. Do you know of locations/areas of social vulnerability concern?
Mountain range east of Shenandoah River has physical access limitations *Kidney Dialysis Building* *There are locations that experience more need than others within the County*

2. Do you have any ideas on how Jefferson County and/or its municipalities could further reduce risk, particularly for those who face barriers to accessing assistance and for populations that are disproportionately affected by disasters?
Ensure resources target low-income housing areas *Look at programs for households that have chronic water cutoffs? To assist water providers in getting their needed revenue while ensuring that households are not left without potable water.*

Hazard Mitigation Committee Kick-Off Meeting

May 24, 2023, 2:30 PM – 4:00 PM

Hospice of the Panhandle
330 Hospice Lane
Kearneysville, WV

Link to Recording:

https://mbakerintl-my.sharepoint.com/:v:/p/sheila_hicks/EeyhElsPIWtJgDGcSURNGJQBfiqEHUfbAVHt4fRyjB3o_A

Attendees

Jefferson County Mitigation Committee Members
Steve Allen
Thomas Butcher
Mason Carter
Sallie Edwards
Jon Freund
Jessica Gormont
Andrew Jenkins
Dick Myers
Kelly Parsons
Jeff Pippel
Terrence Reidy
Matt Vosika
Mason Weikle
Frank Welch
Monica Whyte
Joyce White (Virtual)
Stephanie Grove (Virtual)
Andy Beall (Virtual)

Michael Baker
Mark James
Wes Stafford (Virtual)
Sheila Hicks (Virtual)
Jeffrey Cragle (Virtual)

Smith Planning
Michele King
Virginia Smith

Meeting Notes

1. Welcome and Introductions

Steve Allen. Mr. Allen explained that in order for the community to maintain eligibility for disaster assistance, updates to the hazard mitigation plan are necessary every five years. Mark James provided a brief background/introduction of himself and called for introductions of attendees. Mark went over the meeting agenda and explained that today we have upcoming exercises mainly to address the first three items in the plan. We want to gather feedback from attendees on the changes in hazard and risks since the last plan update in 2018. We will also look at Jefferson Counties capability to pass the assessment and the five-year plan review process.

2. Project Overview

a. What is a Hazard Mitigation Plan and why do it? Plan is a community-driven, living document that communities use to reduce their vulnerability to hazards. Counties must have a plan to maintain access to mitigation grants. These grants can augment local mitigation activities already being accomplished and can leverage other funding sources.
b. Plan Components – will maintain elements/format of 2018 Plan:
    i. Introduction
    ii. Risk Assessment
    iii. Mitigation Strategy
    iv. 5-Year Cycle

Question: Steve Allen - Would the mitigation strategy meeting be in July.

Answer: Mark James – Yes

Steve Allen explained Community Rating System (CRS) and the significance. Must submit reports annually to ISO Insurance Services Office saying this is what we found in that five year cycle each year. This helps get the citizens of Jefferson County a certain amount off flood insurance premiums.

3. 2023 Planning Process

a. Plan Development and Participation
b. Hazard Mitigation Planning Committee – State Agency Officials, Municipal & County Officials, Non Government Stakeholders – no recommended stakeholders when asked.
c. Sub-Committee Opportunities
d. Meetings (Every 4th Tuesday)
    i. Kick-Off: May 24th - 1.5 hours
    ii. Hazard Analysis / Risk Assessment : June 27th - 2 hours
    iii. Mitigation Strategy: July 25th – 4 hours
    iv. Draft Plan Review: August 22nd – 2 hours
e. Public and Stakeholder Participation
f. Obtain Mitigation Plan State and Federal Approval and Adoption

Steve Allen commented that July meeting will tentatively be held at the Ransom Civic Center, depending on availability.

Mark James noted that the Plan requires about a month of review by the State and then the federal government takes 45 days for their review. We will want to have it done by August, at the very latest September.

Mark James stressed the importance of plan committee members to attend meetings, each month, provide local information, input on the plan, review the plan and develop mitigation actions.

Mark James noted new guidance that became effective in 2023. The major changes is the inclusion of equity climate change in this plan. It was partially addressed in the 2018 plan, but more analysis will be required. Also, we will be expanding on the capability assessment and plan integration portions of the plan.

Virginia Smith added that over the last year FEMA Region 3 has required this guidance to be used prior to it being effective. Municipalities cannot just sign off and adopt the plan at the end you have to participate, and we have to document your participation throughout the planning process. Municipalities will also have to identify mitigation action items (2) for each hazard. The County and municipalities must show that they have thought through this process. Another new change in the guidance: If you identify a hazard within the mitigation plan, you have to have at least one mitigation action item.

> Question: Steve Allen - What does HAZUS stand for the for those in here, those of us who may not know what that acronym means.
>
> Answer: Michelle King – Hazard in the US. FEMA developed software to calculate vulnerability using community specific data.

Steve Allen commented that August is Jefferson's County Fair in which a booth is staffed by the Local Emergency Planning Committee. This would be an excellent opportunity to get that word out to the public or even to hand out questionnaires. Also, suggested inclusion of plan updates in the monthly newsletter.

Virginia Smith noted that links to public survey can be sent through social media.

> Question: Monica Whyte - Certain municipalities within Jefferson County are required/mandated by the state to have Source water protection plans that engage communities through emergency services or planning departments. Is there any way integrate Source Water Protection Plans and hazard mitigation plan? The County is due to update the Source Water Protection Plan by 2024. Anything that would help them and including those in their surveys or whatever?
>
> Answer: Virginia Smith - we could address how the two plans could be integrated. We'll show you some ways and some language that you may want me to use too.

Steve Allen noted that one of the areas that we have to address climate change as well and this is how we could bring the two plans together.

4. Risk Assessment Overview and Hazard Review by Virginia Smith
    a. Identify Hazards – Previous & New
    b. Profile Hazards
    c. Rank Hazards
    d. Assess Vulnerability
    e. Hazard Profile Includes:
        i. Location and Extent
        ii. Range of Magnitude
        iii. Past Occurrence
        iv. Future Occurrence
        v. Vulnerability Assessment

Virginia Smith explained Exercise #1: Risk Evaluation and Identification and Mark James handed it out for completion. The purpose of the exercise is to evaluate previously profiled hazards and to identify any new hazards that may exist.

- Part 1: Note any changes in frequency, magnitude or geographic extent.
- Part 2: Evaluate list of hazards NOT profiled in existing HMP.

5. Capability Assessment

a. Planning and Regulatory
b. Administrative and Technical
c. Financial
d. Education and Outreach
e. Participation in the NFIP
f. Plan Integration

Virginia Smith explained Exercise #2: Capability Assessment Survey. The purpose of the exercise is to gather information used to evaluate jurisdictional capabilities and plan development.

Virginia Smith addressed Equity and Social Vulnerability and distributed an Equitable Services Survey requesting the following feedback from participants:

- Shifts in the Needs
- Included Social Equity and/or Vulnerability into Planning or Services
- Known Areas of Social Vulnerability

Also, this will be a good tool to determine if possible opportunities exist for partnerships across organizations, departments and agencies. Determine ways to best inform individuals in know areas of social vulnerability and decide which areas money should be spent.

Steve Allen added, heat in the summer and cold in the winter would be good example of hazards that could be weighted by equity – Getting information out and making resources available would be a priority.

Jefferson County Community Ministries is a good resource for this - providing shelter, along with shelter availability at the Civic Center, schools and United Way. Constructing a building for homeless people and families. Consider for inclusion under social equity. Invite a representative to be part of the planning process.

Monica Whyte commented that United Way, releasing a report on limited income constrained residents in the Eastern Panhandle with nationwide support (ALICE).

Virginia Smith requested that the County NFIP coordinator (Mason Carter) complete Exercise 4: NFIP Community Questionnaire. Mason Carter was in attendance and reviewed the NFIP form for completeness and will provide comments.

- Jefferson County, FEMA FIRM, effective date - December 18, 2009.
- Floodplain Management Ordinance language – Compliant with the current FIRM and FIS and available online at the County's website www.mapwv.gov/flood/map

6. Five-Year Plan Review

Questions for review:

- How has the nature of hazard risk changed in the last five years? Is there new development?
- Are the current resources to implement mitigation actions sufficient?
- Are the fiscal, administrative, political, public support, capability, sufficient?
- Overall, what are the biggest obstacles to completing mitigation actions?

7. Next Steps and Action Items, by Mark James

Information and updates will be posted on County website.

Task	Dates
Full Project Timeline	May 2023 – September 2023
Kick Off Meeting	May 24, 2023 (TODAY)
Hazard Analysis / Risk Assessment	June 27 (Scheduled) – 2hrs
Mitigation Strategy	July 25 – 4hr Workshop
Plan Writing	June – August
Draft Plan Review Public Meeting	August 22 – 2hrs
Deliver to WVEMD/FEMA for Review	August 1 and September 1
Distribute to Municipalities for Adoption	December

Action Items

- Hazard Mitigation Committee
  - Completed Hazard Risk Evaluation
  - Complete Capability Assessment
  - Monitor Project Updates on County Website
- Project Planning Team
  - Update Project on County Website
  - Distribute Data Requests

- Ensure adjacent jurisdiction participation on planning committee.
- Invite Conservation District to Committee meetings.
- EM Director participated in a radio spot on May 24th which include Hazard Mitigation as a main topic.
- Newsletter sent at the 1st of each month by Emergency Management

Steve Allen gave final words. Will be in contact for next meeting in June. The press release about this meeting was published in *The Journal* newspaper. Additional opportunities for release of information to media outlets include: *Shepherdstown Chronicle* and *Spirit of Jefferson*.

Resources & Contact Information

Jefferson County Hazard Mitigation Plan Update Project Website:

https://www.jeffersoncountywv.org/county-government/departments/homeland-security-and-emergency-management

Stephen S. Allen, Director sallen@jeffersoncountywv.org

Dick Myers, Deputy Director dmyers@jeffersoncountywv.org

Mark James - mark.james@mbakerintl.com

Virginia Smith - vsmith@smithp-d.com

Appendix D-3: Hazard Analysis & Risk Assessment Meeting, June 27, 2023

From: James, Mark
To: mzonifrilli@jeffersoncountywv.org; vlupis@jcsdwv.com
Subject: FW: Hazard Analysis & Risk Assessment Meeting - June 27 Invite
Date: Thursday, June 22, 2023 3:08:23 PM
Attachments: Jefferson County HMP - Hazard-Risk Evaluation Form.docx
Jefferson County HMP Hazard Analysis_Risk Assessment Meeting - Agenda.docx
Bolvivar HMP-Mitigation Action Review.docx
Charles Town HMP-Mitigation Action Review.docx
Harpers Ferry HMP-Mitigation Action Review.docx
Jefferson County HMP-Mitigation Action Review.docx
Ranson HMP-Mitigation Action Review.docx
Shepherdstown HMP-Mitigation Action Review.docx

Thank you again for participating in the 2023 Jefferson County Hazard Mitigation Plan Update. The second committee meeting has been scheduled for June 27, 2023, from 1:00-3:00 PM. You will receive a separate calendar invite for this meeting. We will meet at Hospice of the Panhandle located at 330 Hospice Ln, Kearneysville, WV. This will be an in-person meeting, however a virtual MS Teams option will be available.

We will be focusing on Risk Assessment and Mitigation Strategies for hazards in your County. In preparation for this meeting please feel free to review the Mitigation Actions/Strategies that your community identified in the 2018 plan and be prepared to provide a status update. Attached to this email is a copy of the agenda and material that will be distributed and completed during the meeting.

Enclosed items:

- June 27 Meeting Agenda
- Hazard Risk Evaluation Exercise
- Mitigation Action Review Exercises for Jefferson County and 5 Municipalities

It is very important that you represent or delegate a staff to represent your jurisdiction in this effort as future FEMA funds are tied to this planning effort. Please RSVP if you are unable to attend. If you have any questions in the meantime, feel free to email me. We look forward to seeing you again next week.

Thank you,
Mark James

Mark James | Project Manager
1306 Concourse Drive, Suite 500 | Baltimore, MD 21090-1014 |443 938 0479
mark.james@mbakerintl.com | www.mbakerintl.com

From:	James, Mark
To:	Clare_Ath; Steve Allen; ashultz@ctubwv.com; jimauxer@yahoo.com; abeall@shepherdstown.us; mayor@harpersferrywv.us; sgrove@shepherdstown.us; bcaton@k12.wv.us; nfernandes@apus.edu; clerk@shepherdstown.us; jesse.hott@redcross.org; Jennifer Brockman; jbrown@harpersferrywv.us; joe.taylor@csx.com; Becky Burns; tbutch2@firstenergycorp.com; Mason Carter; keith_mantheiy@fws.gov; Rachel Snavely; brmvfcchief@frontiernet.net; jfreund@kentcartridge.com; jhdettmer@comcast.net; terrence.j.reidy@wv.gov; ebenites@jcda.net; mvosika@kentcartridge.com; awatson@ifcwv.org; Thomas Hansen; salsamurai@gmail.com; stephanie.a.rosier@wv.gov; cfcfirechief2@gmail.com; gino.e.sisco@wv.gov; hfrye@shepherd.edu; laura.gatto@pngaming.com; Roger Goodwin; mgoldman9797@gmail.com; Jessica Gormont; donald.grubb@wvumedicine.org; chorn@jcesa.org; george.s.butler@cbp.dhs.gov; mzonifrilli@jeffersoncountywv.org; joyce.a.white@k12.wv.us; william.m.weikle@wv.gov; ryan_levins@nps.gov; jeffcoswa@gmail.com; alan.f.marchun@wv.gov; andrea.thomas@amwater.com; Paula@gsivc.org; lmaraugh@shepherd.edu; middlewayvfc@aol.com; rosslmorgan61@aol.com; compujedijp@yahoo.com; kparsons@nicholsdehaven.com; mpennington@downstreamstrategies.com; dpierson@ransonwv.us; Jeffrey Polczynski; Laura Kuhn; Mike Sine External; rroberts@ransonwv.us; jwells@bsrinc.com; eshuler@shepherd.edu; ronnieshutts@yahoo.com; esmithc4@frontiernet.net; frittsbradley@gmail.com; smoot.stephen@gmail.com; lsnyder@snyderenv.com; christopher.strong@noaa.gov; Jane Tabb Commissioner; Dick Myers; nathan.b.ware@wv.gov; fwelch@shepherdstown.us; emily.wells@mail.wvu.edu; sanford.h.green@wv.gov; monica.a.whyte@wv.gov; lwilling@k12.wv.us; twilt@ransonwv.us; Steve Stolipher; Tricia Jackson Commissioner; jcckrouse@gmail.com; kerry_murphy@fws.gov; Sgrove@shepherdstown.onmicrosoft.com; Victor Lupis; jpippel@juiwater.net; suraj.khanal@cbp.dhs.gov; warren.A.Jenkins@cbp.dhs.gov; pmorse@harpersferrywv.us; sparadis@harpersferrywv.us; bolivarth@frontier.net; jnewman@charlestownwv.us; cvezzosi@charlestownwv.us; Reiley Stanley; thansen@jeffersoncountywv.org
Cc:	Stafford, Wesley; Hicks, Sheila; Cragle, Jeffrey; Virginia Smith; Michele King; Truax, Troy D; PerezMorales, Monica; Stephanie Reel
Subject:	Jefferson County Hazard Mitigaiton Plan - Hazard Analysis & Risk Assessment Meeting
Start:	Tuesday, June 27, 2023 1:00:00 PM
End:	Tuesday, June 27, 2023 3:00:00 PM
Location:	Microsoft Teams Meeting

Agenda

1. Welcome and Introductions

2. Project Update & Recap of May 24 Meeting

3. Risk Assessment Overview and Hazard Identification

Hazard Identification and Profiles

Exercise #1: Hazard Ranking and Risk Factor

Exercise Recap – Risk Ranking Evaluation

4. Mitigation Strategy Discussion

Exercise #2: Mitigation Action Progress (Take Home)

5. Next Steps and Action Items

_____

Microsoft Teams meeting

Join on your computer, mobile app or room device

Click here to join the meeting <https://teams.microsoft.com/l/meetup-join/19%3ameeting_YmIyZTU2ZjEtMTQ4Yi00ZmM1LTljZDItMTQwNGNiZjFhMjMy%40thread.v2/0?context=%7b%22Tid%22%3a%224e1ee3db-4df6-4142-b7b9-bec15f171ca4%22%2c%22Oid%22%3a%22dc2dd6a5-41aa-4359-8c05-0326c04c26de%22%7d>

Meeting ID: 286 787 313 62
Passcode: 9F7B86

Download Teams <https://www.microsoft.com/en-us/microsoft-teams/download-app> | Join on the web <https://www.microsoft.com/microsoft-teams/join-a-meeting>

Join with a video conferencing device

mbakerintl@m.webex.com <mailto:mbakerintl@m.webex.com>

Video Conference ID: 117 114 895 4

Alternate VTC instructions <https://www.webex.com/msteams?confid=1171148954&tenantkey=mbakerintl&domain=m.webex.com>

Or call in (audio only)

+1 412-634-6334,,975956306# <tel:+14126346334,,975956306#> United States, Pittsburgh

Phone Conference ID: 975 956 306#

Find a local number <https://dialin.teams.microsoft.com/acddf4cc-ae11-4ec5-ab52-a7338248c8d6?id=975956306> | Reset PIN <https://dialin.teams.microsoft.com/usp/pstnconferencing>

Learn More <https://aka.ms/JoinTeamsMeeting> | Meeting options <https://teams.microsoft.com/meetingOptions/?organizerId=dc2dd6a5-41aa-4359-8c05-0326c04c26de&tenantId=4e1ee3db-4df6-4142-b7b9-bec15f171ca4&threadId=19_meeting_YmIyZTU2ZjEtMTQ4Yi00ZmM1LTljZDItMTQwNGNiZjFhMjMy@thread.v2&messageId=0&language=en-US>

_____

Save the Date email

Please save the date for 1PM on June 27 for our second Hazard Mitigation Committee Meeting. More details will be provided in the weeks to come. If you have not already submitted the attached "Evaluation of Identified Hazards and Risks" exercise, please take a few moments to review and complete. It is very important that you represent or delegate a staff to represent your jurisdiction in this effort as future FEMA funds are tied to this planning effort. If you have any questions, please feel free to contact me, other members of our planning team

Meeting Invite

Please find the agenda for next week's Hazard Mitigation Committee Meeting on June 27th at 1PM in the Hospice of the Panhandle located at 330 Hospice Ln, Kearneysville, WV. We will be focusing on Risk Assessment and Mitigation Strategies for hazards in your County. In preparation for this meeting please feel free to review the Mitigation Actions/Strategies your community identified in the 2018 plan and be prepared to provide a status update. Also, If you have not already submitted the attached "Evaluation of Identified Hazards and Risks" exercise, please take a few moments to review and complete.

It is very important that you represent or delegate a staff to represent your jurisdiction in this effort as future FEMA funds are tied to this planning effort. If you have any questions, please feel free to contact me, other members of our planning team.

Press Release

Natural and man-made hazards may cause loss of life, property loss, and threats to public health and safety. During a disaster event, essential services including access to healthcare, fire/EMS, utilities, etc., may be affected. A hazard mitigation plan is maintained to serve as guidance to emergency management professionals. The purpose of a hazard mitigation plan is to 1) increase awareness around threats and vulnerabilities; 2) build partnerships for risk reduction; 3) identify long-term strategies for risk reduction; 4) align risk reduction with state and community objectives; and 5) identify approaches that focus resources on greatest risk and vulnerability.

On May 24 2023, Jefferson County held the kickoff meeting with community officials and community stockholders to initiate the process of drafting an update to the 2018 plan. This update includes revised profiles of identified natural and man-made hazards, the addition of newly identified regional hazards, newly identified mitigation strategies, as well as updates to hazards previously identified in the 2018 adopted plan.

The Jefferson County Office of Homeland Security and Emergency Management invites you to participate in the in the 2023 Multi-Jurisdictional Hazard Mitigation Plan update and attend the second meeting that will be held on June 27 at 1PM at the Hospice of the Panhandle located at 330 Hospice Ln, Kearneysville, WV. We will be focusing on Risk Assessment and Mitigation Strategies for hazards in your County.

The Jefferson County Office of Homeland Security and Emergency Management will be scheduling a series of meetings throughout summer and fall of 2023. Input from each community and stakeholders is extremely important and critical to the planning process. To access to the plan, meeting material and public surveys, please visit the Jefferson County website.

https://www.jeffersoncountywv.org/county-government/departments/homeland-security-and-emergency-management.

All comments can be directed to The Jefferson County Office of Homeland Security and Emergency Management at jchsem@jeffersoncountywv.org.

Jefferson County Homeland Security and Emergency Management
28 Industrial Boulevard
Kearneysville, WV 25430
Phone: 304-728-3329 or 304-728-3290
Fax: 304-728-3320

Last Update 5/9/2023
Hazard Mitigation and Risk Assessment

Tuesday June 27, 2023 Hospice of the Panhandle 1pm. - 3pm.

Name (PRINT)	Signature	Agency	Phone	E-mail
Allen, Steve		JCHSEM	(304) 728-3290	sallen@jeffersoncountywv.org
Ath, Clare		Jefferson County Commission		commissioner.ath@gmail.com
Auxer, Jim		City of Shepherdstown	(304) 876-2398	jimauxer@yahoo.com
Beall, Andy		City of Shepherdstown	(304) 876-6858	abeall@shepherdstown.us
Benites-Im, Edwina		Jeff. Co. Development Authority	(304) 728-3255	ebenites@jcda.net
Boyd, Amy		City of Shepherdstown	(304) 876-2398	clerk@shepherdstown.us
Brockman, Jennie		JC Planning and Zoning	(304) 728-3228	jbrockman@jeffersoncountywv.org
Brown, J.D.		Harpers Ferry Police Department	(304) 535-6366	jbrown@harpersferrywv.us
Burns, Becky		JC Engineering Department	(304) 728-3257	bburns@jeffersoncountywv.org
Butcher, Thomas		Potomac Edision	(304) 671-3860	tbutch2@firstenergycorp.com
Butler, George		CBP/ATC	304-724-5834	george.s.butler@cbp.dhs.gov
Carter, Mason		JC Engineering Department	(304) 728-3257	mcarter@jeffersoncountywv.org
Caton, Brandon		Jefferson County BOE	304-725-5711	bcaton@k12.wv.us
Cogel, Earl		Blue Ridge Fire Company	(304) 616-8557	brmvfcchief@frontiernet.net
Dettmer, Helen		Town of Bolivar	(304) 535-2476	jhdettmer@comcast.net
Edwards, Sallie		Volunteer	(808) 285-2165	salsamurai@gmail.com
Fernandes, Nuno		American Public University	(877) 755-2787	nfernandes@apus.edu
Freund, Jon		Kent Cartridge	(304) 724-3670	jfreund@kentcartridge.com
Fritts, Bradley		Bakerton Fire Company	(304) 866-1298	frittsbradley@gmail.com
Frye, Holly Morgan		Shepherd University	(304) 876-5402	hfrye@shepherd.edu
Gatto, Laura		Hollywood Casino	(304) 724-4342	laura.gatto@pngaming.com
Goldman, Michele		JC COAD	(540) 539-0498	mgoldman9797@gmail.com

Zontrilli Mfr Commission 814 979 3616 mzontrillia Jefferson county.org

Goodwin, Roger		JC Engineering Dept.	(304) 728-3256	rgoodwin@jeffersoncountywv.org
Gormont, Jessica		Jefferson County GIS	(304) 724-8986	jgormont@jeffersoncountywv.org
Green, Sanford		WVDHSEM	(304) 558-5380	sanford.h.green@wv.gov
Grove, Stephanie		City of Shepherdstown	304-870-4331	sgrove@shepherdstown.us
Grubb, Donnie		WVU Medicine	(304) 596-5100	donald.grubb@wvumedicine.org
Hansen, Tom		JC Sheriff's Dept.	(304) 728-3205	thansen@jeffersoncountywv.org
Herbst, Larry Jr.		Citizens Fire Company	304-995-7674	cfcfirechief2@gmail.com
Horn, Craig		JC Emergency Services Agency	(304) 839-6319	chorn@jcesa.org
Hott, Jesse		American Red Cross	(304) 588-0724	jesse.hott@redcross.org
Jackson, Tricia		Jefferson County Commission		commissioner.triciajackson@gmail.com
Krouse, Jennifer		Jefferson County Commission	304-404-7878	jcckrouse@gmail.com
Kuhn, Laura		JC Maintenance Department	(304) 728-3355	lkuhn@jeffersoncountywv.org
Kutcher, Chris		Charles Town Police Department	304-725-2714	ckutcher@charlestownpolice.com
Levins, Ryan		Harpers Ferry NHP	(304) 535-6232	ryan_levins@nps.gov
Lupis, Victor		JC Sheritt's Depart		Vlupis@jeffersoncountywv.org
Mantheiy, Keith		US Fish and Wildlife Service	(304) 876-7224	keith_mantheiy@fws.gov
Maraugha, Lori		Shepherd University	(304) 876-5374	lmaraugh@shepherd.edu
Marchun, Alan		WV Public Health		alan.f.marchun@wv.gov
Marrone-Reese, Paula		Good Shepherd Inter-Faith	(304) 876-3325	Paula@gsivc.org
Mood, Michael		Middleway Fire Company	(304) 582-0204	middlewayvfc@aol.com
Morgan, Ross		Shepherdstown Fire Company	(304) 876-2311	rosslmorgan61@aol.com
Morrow, Emily		WVU Extension Service	(304) 728-7413	emily.wells@mail.wvu.edu
Myers, Dick		Jefferson County OHSEM	304-728-3329	dmyers@jeffersoncountywv.org
Pardis, Steve		Harpers Ferry Water Works	(304) 582-4019	sparadis@harpersferrywv.us
Parkin, Jonnie		Volunteer	(540) 287-3481	compujediip@yahoo.com
Parsons, Kelly		Nichols, Dehaven & Associates	(304) 725-6525	kparsons@nicholsdehaven.com
Pennington, Matt		Downstream Strategies	(304) 707-1920	mpennington@downstreamstrategies.com

Pierson, Duke		City of Ranson	(304) 724-1010	dpierson@ransonwv.us
Polczynski, Jeff		JC Emergency Communications	(304) 278-3317	jpolczynski@jeffersoncountywv.org
Reidy, Terrence		Jeff. Co. Health Department	(304) 728-8416	terrence.j.reidy@wv.gov
Roberts, Robbie		Ranson Police Department	(304) 728-5186	rroberts@ransonwv.us
Rosier, Stephanie		WVEMD	304-558-5380	stephanie.a.rosier@wv.gov
Schwartz, Jeff		JC Solid Waste Authority	(304) 725-8082	jeffcoswa@gmail.com
Sherwood, John		Volunteer	(304) 728-0180	jmsctwv@frontiernet.net
Shuler, Eric		Shepherd University	(304) 876-5644	eshuler@shepherd.edu
Shultz, April		Charles Town Utilities	(304) 725-2316	ashultz@ctubwv.com
Shutts, Ronnie		Friendship Fire Company	(304) 283-1560	ronnieshutts@yahoo.com
Sine, Mike		JC Emergency Services Agency	(304) 728-3287	msine@jcesa.org
Sisco, Gino		Jeff. Co. Health Department	(304) 728-8416	gino.e.sisco@wv.gov
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Smooth, Stephen		Rep. Alex Mooney's Office	(304) 264-8810	smoot.stephen@gmail.com
Snavely, Rachel		Region 9	(304) 263-1973	rsnavely@region9wv.com
Snyder, Lee		Snyder Enviromental	(304) 725-9140	lsnyder@snyderenv.com
Sotomayor, Ben		Harpers Ferry Job Corps	(304) 724-3474	bsotomayor@fs.fed.us
Stolipher, Steve		Jefferson County Commission	304-278-4212	stolipherjcc@gmail.com
Strong, Chris		National Weather Service	(571) 888-3500	christopher.strong@noaa.gov
Tabb, Jane		Jefferson County Commission	(304) 671-1213	vinemont.farm@gmail.com
Taylor, Joe		CSX	800-232-0144	joe.taylor@csx.com
Thomas, Andrea		American Water	(304) 340-2047	andrea.thomas@amwater.com
Trainor, Bob		City of Charles Town	(304) 724-3254	btrainor@charlestownwv.us
Vaughn, Gregory		Town of Harpers Ferry	(304) 535-2206	mayor@harpersferrywv.us
Vosika, Matt		Kent Cartridge		mvosika@kentcartridge.com
Ware, Nathan		WV Dept. of Highways	(304) 725-5821	nathan.b.ware@wv.gov

Shadle, Jackie County Clerk

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Weikle, Mason		Jeff. Co. Health Department	(304) 728-8416	william.m.weikle@wv.gov
Welch, Frank	Frank Welch	Shepherdstown Water	(304) 876-3322	fwelch@shepherdstown.us
Wells, John		Summit Point Raceway	(304) 725-7614	jwells@bsrinc.com
White, Joyce		JC Board of Education	(304) 728-9265	joyce.a.white@k12.wv.us
Whyte, Monica	Monica Whyte	WV Health Department	(304) 725-9453	monica.a.whyte@wv.gov
Willingham, Larry		JC Board of Education	(304) 671-3927	lwilling@k12.wv.us
Wilt, Todd		City of Ranson	(304) 279-4151	twilt@ransonwv.us
Zonfrilli, Makayla	PWM Signed on R.1	Jefferson County Administator	304-728-3281	mzonifrilli@jeffersoncountywv.org
Khanal, Suraj		CBP/ATC		suraj.khanal@cbp.dhs.gov
Jenkins, Andrew		CBP/ATC	304 839 1930	warren.A.Jenkins@cbp.dhs.gov
Pippel, Jeff		Jefferson Utilities	304 728 2077	jpippel@juiwater.net
Steve Paradis		Bolivar	304-676-2317	sparadis@harpersferrywv.us
Laura Whittington		Bolivar	304-535-2476	bolivarth@frontier.net
James Newman		Charles Town	304-724-3251	jnewman@charlestownwv.us
Carolyn Vezzosi		Charles Town	304-724-3250	cvezzosi@charlestownwv.us
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Armentrout, Michael — Harpers Ferry Police Dept (304) 535-6366 — marmentrout@harpersferrywv.us

Murphy, Kerry — National Conservation Training Center — 304 876 7745 — kerry_murphy@fws.gov

Barre, Jennifer — Cadet — 989.404.0368 — JennyBarre@buck.com

Sgt. Robert — JCSO — 304 728 3205 — RSgt@JCSOWV.com

Hazard Mitigation Committee Meeting - Hazard Analysis / Risk Assessment

June 27, 2023

1:00 PM – 3:00 PM

Agenda

1. Welcome and Introductions
2. Project Update & Recap of May 24 Meeting
3. Risk Assessment Overview and Hazard Identification
    - Hazard Identification and Profiles
    - Exercise #1: Hazard Ranking and Risk Factor
    - Exercise Recap – Risk Ranking Evaluation
4. Mitigation Strategy Discussion
    - Exercise #2: Mitigation Action Progress (Take Home)
5. Next Steps and Action Items

Resources & Contact Information

Jefferson County Hazard Mitigation Plan Update Project Website:

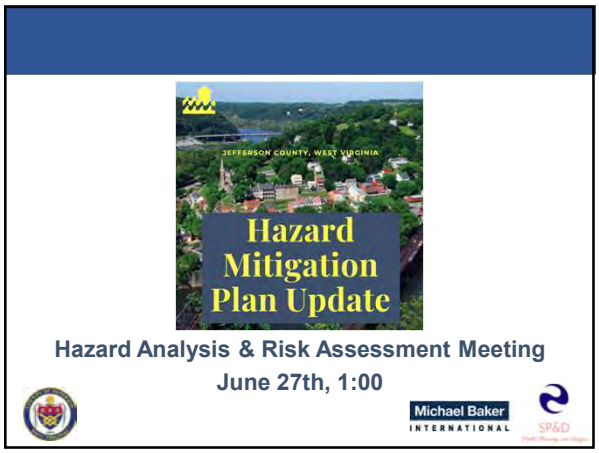
Questions? Comments?

Stephen S. Allen, Director sallen@jeffersoncountywv.org

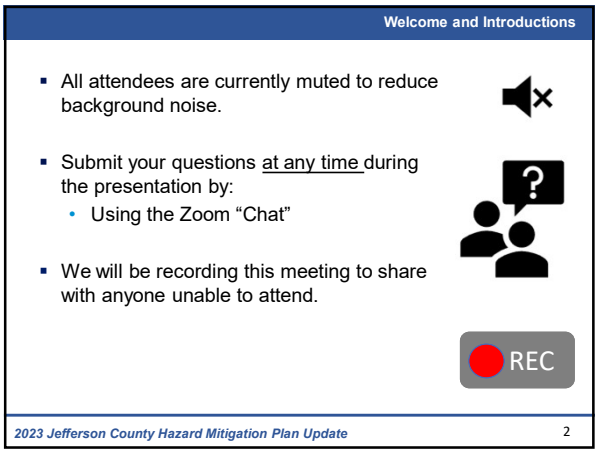
Dick Myers, Deputy Director dmyers@jeffersoncountywv.org

Mark James - mark.james@mbakerintl,com

Virginia Smith - vsmith@smithp-d.com


JEFFERSON COUNTY, WEST VIRGINIA
Hazard Mitigation Plan Update
Hazard Analysis & Risk Assessment Meeting
June 27th, 1:00
Michael Baker INTERNATIONAL
SP&D

1


Welcome and Introductions
All attendees are currently muted to reduce background noise.
Submit your questions at any time during the presentation by:
Using the Zoom "Chat"
We will be recording this meeting to share with anyone unable to attend.
REC
2023 Jefferson County Hazard Mitigation Plan Update
2

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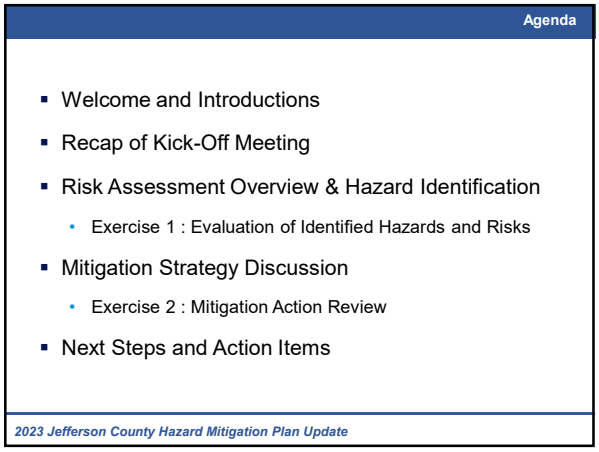
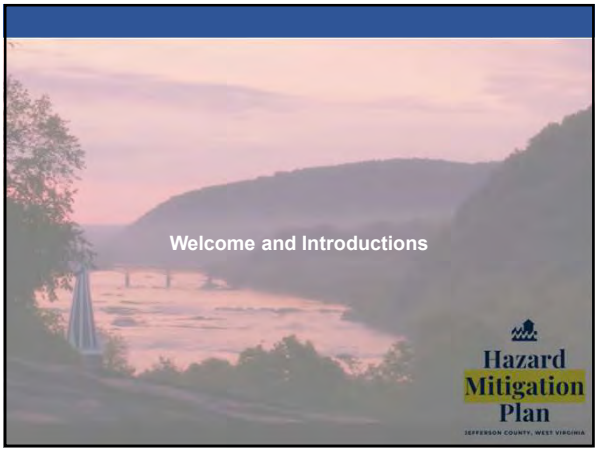
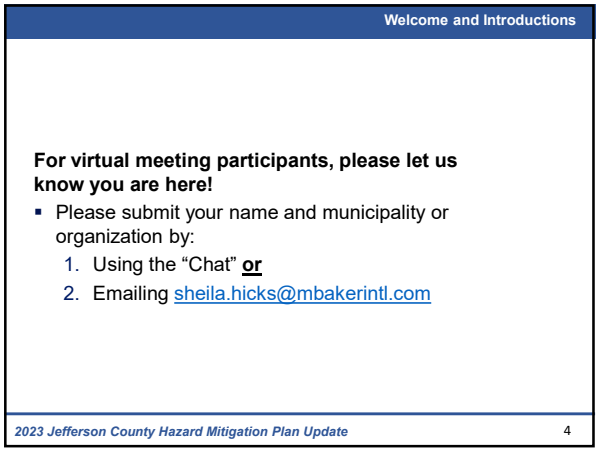

Agenda
Welcome and Introductions
Recap of Kick-Off Meeting
Risk Assessment Overview & Hazard Identification
Exercise 1 : Evaluation of Identified Hazards and Risks
Mitigation Strategy Discussion
Exercise 2 : Mitigation Action Review
Next Steps and Action Items
2023 Jefferson County Hazard Mitigation Plan Update

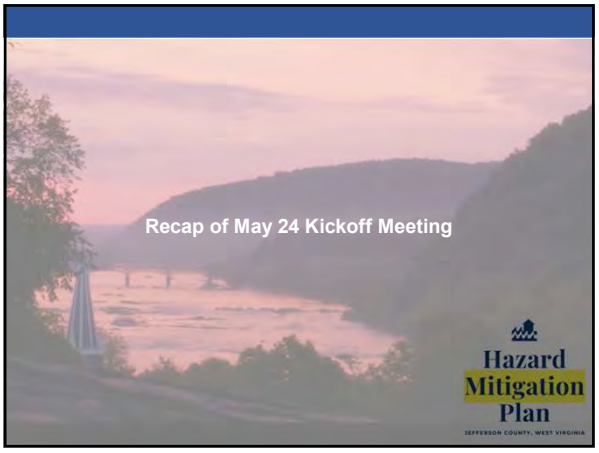
3


Welcome and Introductions
Hazard Mitigation Plan
JEFFERSON COUNTY, WEST VIRGINIA

4


Welcome and Introductions
For virtual meeting participants, please let us know you are here!
Please submit your name and municipality or organization by:
1. Using the "Chat" or
2. Emailing sheila.hicks@mbakerintl.com
2023 Jefferson County Hazard Mitigation Plan Update
4

5


Recap of May 24 Kickoff Meeting
Hazard Mitigation Plan
JEFFERSON COUNTY, WEST VIRGINIA

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May 24th Kick-Off Meeting Recap

- Discussed the 2023 hazard mitigation planning process and requirements
- Discussed hazards and risks identified in the 2018 Plan
- Completed four worksheets:
  - Hazard-Risk Assessment Exercise
  - Capability Assessment Survey
  - Social Equity Survey
  - National Flood Insurance Program Survey
- Discussed Committee Participation Opportunities

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Municipal Participation Status

If you haven't already, please fill out and return any worksheets you may have missed!

County and Municipal Participation in 2023 Hazard Mitigation Planning Process

	Participation Summary	Jefferson County				
		Bolivar	Charles Town	Harpers Ferry	Ranson	Shepherdstown
Meetings	Steering Committee Kick-Off May 24					✓
	Risk Assessment/Mitigation Workshop June 27					
	Mitigation Strategy July 26					
	Draft Plan Review August 29					
	Public Meeting (TBD)					
Worksheets	Identified Hazards and Risk				✓	✓
	Capability Assessment Survey	✓				✓
	NFIP Survey					
	Evaluation of Identified Hazards & Risks					
	Mitigation Action Review					

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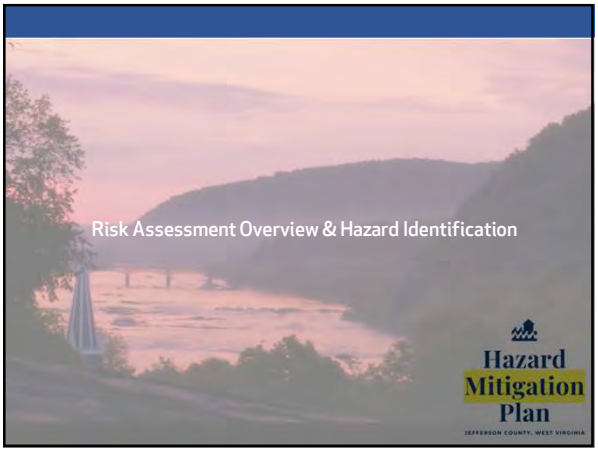

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Hazard Profiles

2023 Identified Hazards

Natural Hazards

- Drought
- Earthquake
- Extreme Temperatures
- Flood
- Invasive Species
- Land Subsidence
- Landslide
- Public Health Crisis
- Severe Thunderstorm and Hail
- Severe Wind and Tornado
- Severe Winter Storm
- Wild and Urban Fires
- Karst / Sinkholes

Human-Made Hazards

- Dam Failure
- Civil Disturbance
- Hazardous Materials
- Terrorism
- Utility Interruption
- Cyber Terrorism

Blue denotes newly added hazards

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Hazard Profiles

- **Location and Extent**
  - ***Where*** does the hazard happen?
- **Past Occurrence**
  - ***When*** *and where* has the event happened in the past?
- **Future Occurrence**
  - ***How*** *likely* is it that the event will happen in the future?
- **Range of Magnitude**
  - ***How*** *minor or major* might the event be?
- **Vulnerability Assessment**
  - ***What*** *people, structures, and critical facilities* are at risk?

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Rank Hazards

- Standardized method to rank risks
- Done on a Countywide basis

Risk Factor Value =
[(Probability x .30) + (Impact x .30) +
(Spatial Extent x .20) + (Warning Time x .10) +
(Duration x .10)]

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Exercise 1: Evaluation of Identified Hazards and Risks

- This exercise allows you to prioritize new and previously profiled hazards.
  - Evaluate each hazard using the risk assessment category using a ranking of 1 to 5 noted in the attached Risk Factor Methodology handout. Leave the Risk Factor Column blank – we will calculate that and provide a summary in the meet follow-up email
  - Risk Factor Categories
    - Probability
    - Impact
    - Spatial Extent
    - Warning Time
    - Duration

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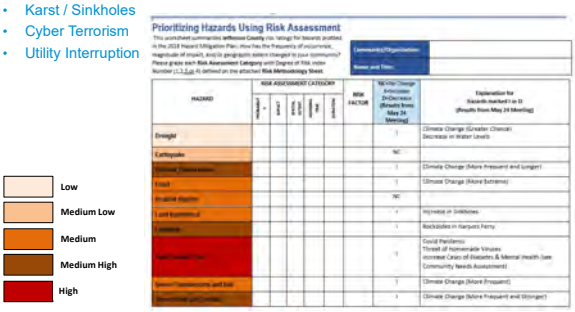
Risk Ranking Evaluation

- Evaluated the hazards profiled in the plan and determined changes in risk
- Identified three new hazards
- Karst / Sinkholes
- Cyber Terrorism
- Utility Interruption



Low
Medium Low
Medium
Medium High
High

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Risk Ranking Evaluation

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Hazard Review Example: Flood

Flood Risk & Vulnerability

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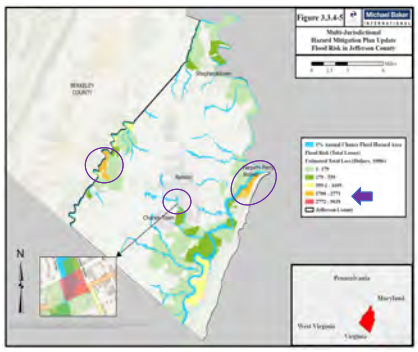
Hazard Review Example: Flood



Flood Risk-
Estimated Total Losses

- **Charles Town** - Evitts Run's 1-percent-annual chance floodplain encompasses the area between West Liberty and West Washington streets.
- **Harpers Ferry** –At the confluence of the Potomac River and Shenandoah River and continues the east side of the Shenandoah River until the Blue Ridge Community.
- **Western border of Jefferson and Berkeley counties**. Near Wide Horizon Boulevard to Hidden Hollow Road and impacted by Opequon Creek.

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Hazard Review Example: Flood

Table 3.3.4-10 Community Assets Flood Vulnerability for Jefferson County & Municipalities

Community	Religious Org.	Govt. Bldg.	Utility	Education	EMS	Other	Total
Unincorporated	2	2	1	0	0	0	5
Bolivar	0	0	1	0	0	0	1
Charles Town	0	0	1	0	0	0	1
Harpers Ferry	0	1	0	0	0	0	1
Ranson	1	0	0	0	0	0	1
Shepherdstown	0	0	1	3	0	0	4
Jefferson County Total	**3**	**3**	**4**	**3**	**0**	**0**	**13**

Source: Region 9 Tabular Community-Level Report Link: data.wvgis.wvu.edu - /pub/RA/State/CL/Community_Asset/

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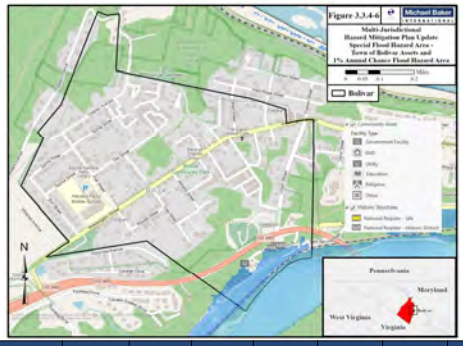
Hazard Review Example: Flood



Community	Religious Org.	Govt. Bldg.	Utility	Education	EMS	Other	Total
Bolivar	0	0	1	0	0	0	1

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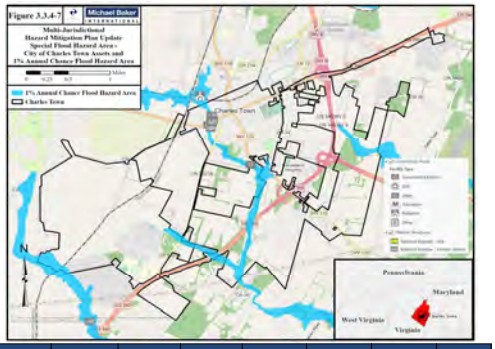
Hazard Review Example: Flood



Community	Religious Org.	Govt. Bldg.	Utility	Education	EMS	Other	Total
Charles Town	0	0	1	0	0	0	1

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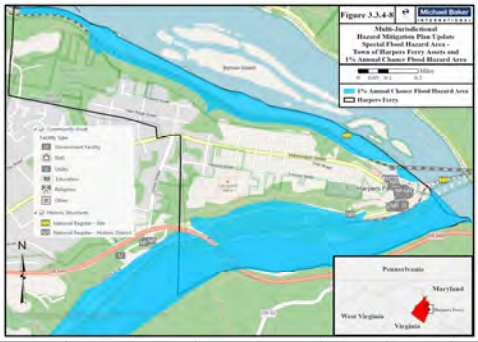
Hazard Review Example: Flood



Community	Religious Org.	Govt. Bldg.	Utility	Education	EMS	Other	Total
Harpers Ferry	0	1	0	0	0	0	1

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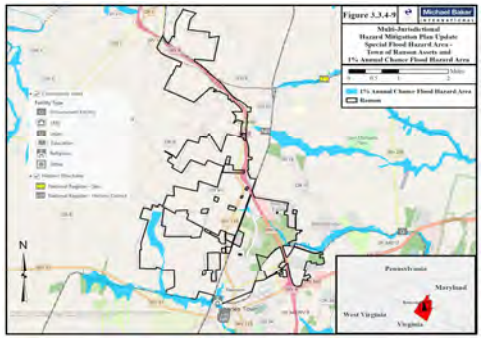
Hazard Review Example: Flood



Community	Religious Org.	Govt. Bldg.	Utility	Education	EMS	Other	Total
Ranson	1	0	0	0	0	0	1

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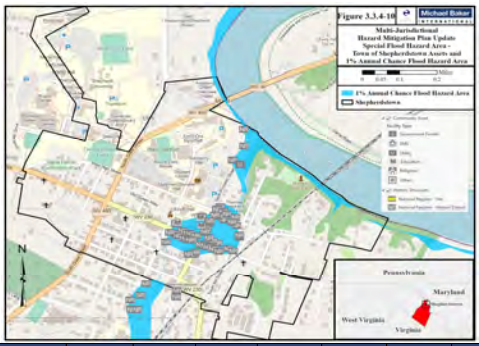
Hazard Review Example: Flood



Community	Religious Org.	Govt. Bldg.	Utility	Education	EMS	Other	Total
Shepherdstown	0	0	1	3	0	0	4

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Hazard Review Example: Dam Failure

Dam Failure Risk & Vulnerability

2023 Jefferson County Hazard Mitigation Plan Update

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Hazard Review Example: Dam Failure

Table 3.3.13-1 Dam Hazard Potential Classifications (WV DEP)

CLASS	DESCRIPTION
1 (High Hazard)	Dams located where failure may cause loss of human life or major damage to dwellings, commercial or industrial buildings, main railroads, important public utilities, or where a high-risk highway may be affected or damaged. This classification must be used if failure may result in the loss of human life.
2 (Significant Hazard)	Dams located where failure may cause minor damage to dwellings, commercial or industrial buildings, important public utilities, main railroads, or cause major damage to unoccupied buildings, or where a low-risk highway may be affected or damaged. The potential for loss of human life resulting from failure of a Class 2 dam must be unlikely.
3 (Low Hazard)	Dams located in rural or agricultural areas where failure may cause minor damage to nonresidential and normally unoccupied buildings, or rural or agricultural land. Failure of a Class 3 dam would cause only a loss of the dam itself and a loss of property use, such as use of related roads, with little additional damage to adjacent property. The potential for loss of human life resulting from failure of a Class 3 dam must be unlikely. An impoundment exceeding forty (40) feet in height, or four hundred (400) acre-feet storage volume shall not be classified as a Class 3 dam. A waste disposal dam, the failure of which may cause significant harm to the environment, shall not be classified as a Class 3 dam.
4 (Negligible Hazard)	Dams where failure is expected to have no potential for loss of human life, no potential for property damage and no potential for significant harm to the environment. Examples of Class 4 dams include: dams across rivers, failure of which under any conditions will not flood areas above normal streambank elevations; dams located in the reservoir of another dam which, under any conditions, can contain water released by failure of the Class 4 dam; and dams in series where the toe of the Class 4 dam(s) is in close proximity to the reservoir of a dam which can contain failure of the Class 4 dam(s) under any condition. In considering a request for a Class 4 designation, the director may require written concurrence from the owner(s) of downstream dams that may be affected by failure of the Class 4 dam. Approval for use of this classification is vested in the director and will be based on engineering evaluation of the dam(s) and downstream areas in question.

Dams within Jefferson County

Class 1 – High:
- None

Class 2 – Significant:
- Lake Shannondale Dam

Class 3 – Low:
- Lake Forest Dam
- Millville Dam

Class 4 – Negligible:
- Keys Ferry Acres Lake Dams #1, #2 & #3

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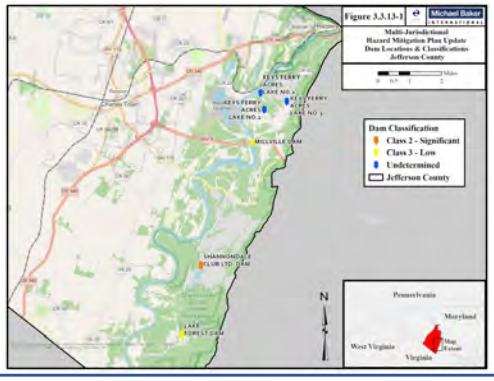
Hazard Review Example: Dam Failure



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Hazard Review Example: Dam Failure

Lake Shannondale Dam – Significant

Suggested Sites for Roadblocks:
- Gate 2 (blocking entrance to Mission Road at Lower Clubhouse Road)
- Gate 3 (blocking entrance to Upper Clubhouse Road at Mission Road)
- On Upper Clubhouse Road when street name changes to Lakeside Drive (blocking
- access to Lakeside Drive which goes over the Dam)
- At the Dam and Laurel Hill Road (blocking access to Lakeside Drive at the Dam)
- At the Dam and Gingerbread Lane (blocking access to Lakeside Drive at the Dam)
- All intersections of Lower Clubhouse Road leading to Lakeside Drive

Note that if the Dam failure should occur, and the Dam spillage reaches Mission Road, the water flow across Mission Road might cut off traffic's access to Route 115.

Source: LAKE SHANNONDALE DAM - JEFFERSON COUNTY, WV - WV ID # 03701 MONITORING AND EMERGENCY ACTION PLAN: UPDATED OCTOBER 14, 2021

Map of Roadblock Locations

Roadblock Locations shown by Number
1. = Gate 2 - Mission Rd at Lower Clubhouse Dr
2. = Gate 3 - Mission Rd at Upper Clubhouse Dr
3. = Upper Clubhouse Dr at Lakeside Dr
4. = Lakeside Dr at Laurel Hill Rd
5. = Lakeside Dr at Gingerbread Lane
6. = Lakeside Dr at Lower Clubhouse Rd

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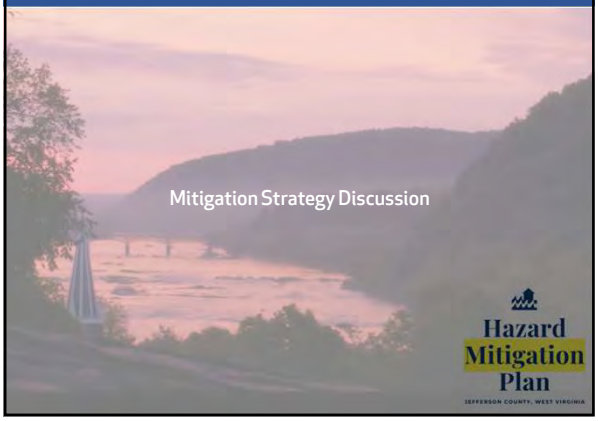

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Mitigation Strategy

Mitigation Action Plan:

- Each municipality must have at least 2 mitigation actions for each profiled hazard.
- Mitigation actions should be realistic and sustainable.
- 2018 Jefferson County HMP: 123 actions
  - Some were new for 2018 and some were continued or modified from 2013

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Mitigation Strategy

Update Approach:
- Document existing mitigation actions and identify new ones.
- Assess hazard mitigation goals, objectives, and actions as they relate to reducing loss of life and property from natural and human-made hazards.

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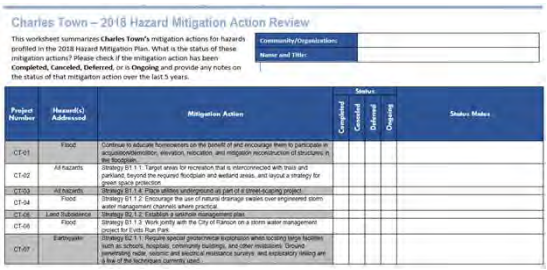
Exercise 2 : 2018 Mitigation Action Progress

- Status, progress, and notes on actions from the 2018 HMP.
- Can be completed and emailed by **July 7** (electronic copies can be found in your June 27 meeting invite)


Charles Town – 2018 Hazard Mitigation Action Review

This worksheet summarizes **Charles Town's** mitigation actions for hazards profiled in the 2018 Hazard Mitigation Plan. What is the status of these mitigation actions? Please check if the mitigation action has been **Completed, Cancelled, Deferred,** or is **Ongoing** and provide any notes on the status of that mitigation action over the last 5 years.

Community/Organization:
Name and Title:

Project Number	Hazard(s) Addressed	Mitigation Action	Status: Completed	Cancelled	Deferred	Ongoing	Status Notes
CT-01	Flood	Continue to educate homeowners on the benefit of and encourage them to participate in acquisition/demolition, elevation, relocation, and mitigation reconstruction of structures in the floodplain.					
CT-02	All hazards	Strategy B1.1.1: Target areas for recreation that is interconnected with trails and parkland, beyond the required floodplain and wetland areas, and layout a strategy for green space protection					
CT-03	All hazards	Strategy B1.1.4: Place utilities underground as part of a street-scaping project.					
CT-04	Flood	Strategy B1.1.2: Encourage the use of natural drainage swales over engineered storm water management channels where practical.					
CT-05	Land Subsidence	Strategy B2.1.2: Establish a sinkhole management plan.					
CT-06	Flood	Strategy B1.1.3: Work jointly with the City of Ranson on a storm water management project for Evitts Run Park.					
CT-07	Earthquake	Strategy E2.1.1: Require special geotechnical exploration where locating large facilities (such as schools, hospitals, community buildings, and other institutions). Ground penetrating radar, seismic and electrical resistance surveys and exploratory drilling are a few of the techniques currently used.					

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Mitigation Techniques

- FEMA mitigation planning guidance identifies four types of mitigation activities:
  - Plans and Regulations
  - Structure and Infrastructure Projects
  - Natural Systems Protection
  - Education and Awareness Programs

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Plans and Regulations

- Government authorities, policies, or codes that influence the way land and buildings are developed and built such as:
  - Comprehensive Plans
  - Subdivision Regulations
  - Building Codes and Enforcement
  - Capital improvement Programs
  - Stormwater Management Plans
  - Emergency Operations Plans

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Structure and Infrastructure Projects

- Modifying existing structures and infrastructure to remove from a hazard area
- Construction of manmade structures to reduce impacts of hazards

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Natural Systems Protection

- Actions that minimize damage and losses and also preserve or restore the functions of natural systems
  - Sediment and erosion control
  - Stream corridor restoration
  - Forest management
  - Conservation easements
  - Wetland restoration and preservation

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Education and Awareness Programs

- National preventative programs
- Mailings to hazard-prone communities
- Websites with maps and information
- Presentations to community groups
- Radio or TV spots

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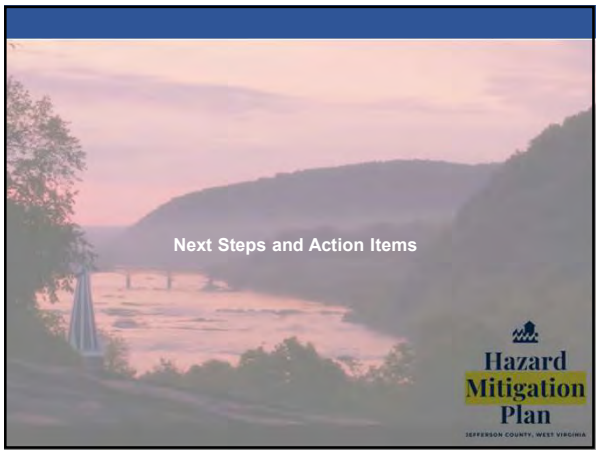

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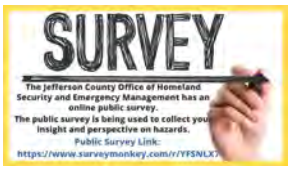
Survey

We want to hear from you! Please visit the following link and complete the survey regarding the 2023 plan update:
https://www.surveymonkey.com/r/YFSNLX7



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Schedule and Meetings

Task	Dates
Full Project Timeline	May 2023 – September 2023
Kick Off Meeting	May 24, 2023
Hazard Analysis / Risk Assessment	June 27 (Scheduled) – 2hrs
Mitigation Strategy	July 26 – 4hr Workshop
Plan Writing	June – August
Draft Plan Review Public Meeting	August 29 – 2hrs
Deliver to WVEMD/FEMA for Review	August 1 and September 1
Distribute to Municipalities for Adoption	December

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Action Items

- Hazard Mitigation Planning Team:
  - Complete Mitigation Action Progress Forms by **July 7**
  - Complete New Mitigation Action Forms by **July 7**
  - Provide photos of disaster events from 2018-2022
  - Review draft plan in Late August
  - Check out the Project website:

  https://www.jeffersoncountywv.org/county-government/departments/homeland-security-and-emergency-management
- Project Team:
  - Update project website with meeting materials
  - Prepare draft plan

Next Meeting: July 27 - Mitigation Strategy Workshop

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Questions?

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Thank You

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(304) 728-3290

Dick Myers, Deputy Director
Jefferson County Homeland Security and Emergency Management
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Virginia Smith, AICP
Smith Planning and Design
vsmith@smithp-d.com
(301) 724-7611

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Prioritizing Hazards Using Risk Assessment

This worksheet summarizes **Jefferson County** risk ratings for hazards profiled in the 2018 Hazard Mitigation Plan. How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? Please grade each **Risk Assessment Category** with Degree of Risk Index Number (1,2,3,or 4) defined on the attached **Risk Methodology Sheet**.

Community/Organization:	
Name and Title:	

HAZARD	RISK ASSESSMENT CATEGORY					RISK FACTOR	**NC**=No Change **I**=Increase **D**=Decrease **(Results from May 24 Meeting)**	**Explanation for hazards marked I or D (Results from May 24 Meeting)**
	PROBABILITY	IMPACT	SPATIAL EXTENT	WARNING TIME	DURATION			
Drought							I	Climate Change (Greater Chance) Decrease in Water Levels
Earthquake							NC	
Extreme Temperatures							I	Climate Change (More Frequent and Longer)
Flood							I	Climate Change (More Extreme)
Invasive Species							NC	
Landslide / Land Subsidence							I	Rockslides in Harpers Ferry
Public Health Crisis							I	Covid Pandemic Threat of Homemade Viruses Increase Cases of Diabetes & Mental Health (see Community Needs Assessment)
Severe Thunderstorm and Hail							I	Climate Change (More Frequent)
Severe Wind and Tornado							I	Climate Change (More Frequent and Stronger)

HAZARD	RISK ASSESSMENT CATEGORY					RISK FACTOR	NC=No Change I=Increase D=Decrease (Results from May 24 Meeting)	Explanation for hazards marked I or D (Results from May 24 Meeting)
	PROBABILITY	IMPACT	SPATIAL EXTENT	WARNING TIME	DURATION			
Severe Winter Storm							D	Climate Change (Getting Warmer – No Snow & Shorter Winters)
Wild and Urban Fires							I	Brush Fires – Increase in Temperatures Drought Dependent
Dam Failure								
Civil Disturbance							NC	Politically Motivated Drive by Protests and Demonstrations
Hazardous Materials							I	Increased Awareness & Increase in Population Exposed to Industry PFAS/PFOA has caused public concern
Terrorism							I	Increased Threat Electrical Grid Targeted Rockwool Factory Targeted
Karst / Sinkholes								Increase in Sinkholes
Cyber Terrorism								
Utility Interruption								

Overall Hazard Priority Levels Determined in 2018 Hazard Mitigation Plan

Low **Medium Low** **Medium** **Medium High** **High**

Risk Factor Methodology				
RISK ASSESSMENT CATEGORY	**DEGREE OF RISK**			**WEIGHT VALUE**
	LEVEL	**CRITERIA**	**INDEX**	
PROBABILITY *What is the likelihood of a hazard event occurring in a given year?*	**UNLIKELY**	LESS THAN 1% ANNUAL PROBABILITY	**1**	**30%**
	POSSIBLE	BETWEEN 1 & 49.9% ANNUAL PROBABILITY	**2**	
	LIKELY	BETWEEN 50 & 90% ANNUAL PROBABILITY	**3**	
	HIGHLY LIKELY	GREATER THAN 90% ANNUAL PROBABILTY	**4**	
IMPACT *In terms of injuries, damage, death, and economic impact, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs?*	**MINOR**	VERY FEW INJURIES, IF ANY. ONLY MINOR PROPERTY DAMAGE & MINIMAL DISRUPTION ON QUALITY OF LIFE. TEMPORARY SHUTDOWN OF CRITICAL FACILITIES.	**1**	**30%**
	LIMITED	MINOR INJURIES ONLY. MORE THAN 10% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR MORE THAN ONE DAY.	**2**	
	CRITICAL	MULTIPLE DEATHS/INJURIES POSSIBLE. MORE THAN 25% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR MORE THAN ONE WEEK.	**3**	
	CATASTROPHIC	HIGH NUMBER OF DEATHS/INJURIES POSSIBLE. MORE THAN 50% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR 30 DAYS OR MORE.	**4**	
SPATIAL EXTENT *How large of an area could be impacted by a hazard event? Are impacts localized or regional?*	**NEGLIGIBLE**	LESS THAN 1% OF AREA AFFECTED	**1**	**20%**
	SMALL	BETWEEN 1 & 10% OF AREA AFFECTED	**2**	
	MODERATE	BETWEEN 10 & 50% OF AREA AFFECTED	**3**	
	LARGE	BETWEEN 50 & 100% OF AREA AFFECTED	**4**	

WARNING TIME *Is there usually some lead time associated with the hazard event? Have warning measures been implemented?*	**MORE THAN 24 HRS** **12 TO 24 HRS** **6 TO 12 HRS** **LESS THAN 6 HRS**	SELF-DEFINED SELF-DEFINED SELF-DEFINED SELF-DEFINED	*(NOTE: Levels of warning time and criteria that define them may be adjusted based on hazard addressed.)*	**1** **2** **3** **4**	**10%**
DURATION *How long does the hazard event usually last?*	**LESS THAN 6 HRS** **LESS THAN 24 HRS** **LESS THAN 1 WEEK** **MORE THAN 1 WEEK**	SELF-DEFINED SELF-DEFINED SELF-DEFINED SELF-DEFINED	*(NOTE: Levels of warning time and criteria that define them may be adjusted based on hazard addressed.)*	**1** **2** **3** **4**	**10%**

Prioritizing Hazards Using Risk Assessment

This worksheet summarizes **Jefferson County** risk ratings for hazards profiled for the 2023 Hazard Mitigation Plan. How has the frequency of occurrence, magnitude of impact, and/or geographic extent changed in your community? Hazards were graded using a Risk Index Number. Risk factors were generated for each hazard and prioritized as high, medium, or low.

HAZARD	RISK FACTOR	**NC**=No Change **I**=Increase **D**=Decrease **(Results from May 24 Meeting)**	**Explanation for hazards marked I or D (Results from May 24 Meeting)**
Drought	**2.3**	I	Climate Change (Greater Chance) Decrease in Water Levels
Earthquake	**1.7**	NC	
Extreme Temperatures	**2.5**	I	Climate Change (More Frequent and Longer)
Flood	**2.4**	I	Climate Change (More Extreme)
Invasive Species	**2.0**	NC	
Landslide / Land Subsidence	**2.1**	I	Rockslides in Harpers Ferry
Public Health Crisis	**2.7**	I	Covid Pandemic Threat of Homemade Viruses Increase Cases of Diabetes & Mental Health (see Community Needs Assessment)
Severe Thunderstorm and Hail	**2.4**	I	Climate Change (More Frequent)
Severe Wind and Tornado	**2.1**	I	Climate Change (More Frequent and Stronger)
Severe Winter Storm	**2.5**	D	Climate Change (Getting Warmer – No Snow & Shorter Winters)
Wild and Urban Fires	**2.3**	I	Brush Fires – Increase in Temperatures Drought Dependent

HAZARD	RISK FACTOR	**NC**=No Change **I**=Increase **D**=Decrease **(Results from May 24 Meeting)**	**Explanation for hazards marked I or D (Results from May 24 Meeting)**
Dam Failure	**1.9**	NC	
Civil Disturbance	**2.0**	NC	Politically Motivated Drive by Protests and Demonstrations
Hazardous Materials	**2.4**	I	Increased Awareness & Increase in Population Exposed to Industry PFAS/PFOA has caused public concern
Terrorism	**2.3**	I	Increased Threat Electrical Grid Targeted Rockwool Factory Targeted
Karst / Sinkholes	**1.9**		Increase in Sinkholes
Cyber Terrorism	**2.7**		
Utility Interruption	**2.6**		

Low **Medium** **High**

Hazard Mitigation Committee Meeting - Hazard Analysis / Risk Assessment

June 27, 2023, 1:00 PM – 3:00 PM

Hospice of the Panhandle
330 Hospice Lane
Kearneysville, WV

Link to Recording:

Jefferson County Hazard Mitigaiton Plan - Hazard Analysis & Risk Assessment Meeting-20230627_130010-Meeting Recording.mp4

Attendees

Jeff Pippel, Jefferson Utilities
Monica Whyte, WV Health Department
Frank Welch, Shepherdstown Water
Jackie Channel, Jefferson County Clerk
Jennifer Krouse, Jefferson County Commission
Makayla Zonfrilli, Jefferson County Administrator
Steve Paradis, Bolivar
Terrence Reidy, Jefferson County Health Department
Michael Armentrout, Harpers Ferry Police Department
J.D. Brown, Harpers Ferry Police Department
Kerry Murphy, NCTC
Jessica Gormont, Jefferson County GIS
Steve Allen, JCHSEM
Dick Myers, Jefferson County OHSEM
Mason Weikle, Jefferson County Health Department
Keith Mantheiy, US Fish and Wildlife
Edwina Benites, Executive Director, JCDA
Jennifer Barre, Private Citizen
Jacqueline Shadle, County Clerk
Robert Sell, Jefferson County Sheriff's Office
Jesse Hott (American Red Cross, Virtual)
Kelly Parsons (Nichols, Dehaven & Assoc, Virtual)
Reiley Stanley (Ranson, Virtual)

Michael Baker International (MBI)
Mark James (Virtual)
Wes Stafford (Virtual)
Sheila Hicks (Virtual)
Jeffrey Cragle (Virtual)

Smith Planning and Design (SPD)
Michele King
Virginia Smith

Meeting Notes

1. Welcome and Introductions

Steve Allen opened the meeting with introductions of representatives from MBI and SPD. He expressed appreciation for all those in attendance. Michelle King gave a quick overview of the meeting agenda. Michelle invited online participants to submit name and organization using the chat feature on Teams or via email to Sheila.hicks@mbakerintl.com. Introductions were made around the room.

2. Project Update & Recap of May 24 Meeting

Virginia Smith provided a recap of the May 24th Kick-Off Meeting, emphasizing:

- This plan is a requirement for Jefferson County and its participating municipalities and it does require formal adoption to be covered for FEMA funding. Must be reviewed locally, by the State, by FEMA and then upon receipt of approval letter, we make recommendation to the county and municipalities to adopt the plan.

- FEMA has upped the requirements for municipalities to be covered under County Plans. We must show that each town that is approving the plan has participated throughout the development process. Participation can be via email, workshops, questionnaires, etc and all of this correspondence is being documented.
- Another requirement is expansion to a diverse cross section of participants.
- Building Infrastructure and Resilient Communities (BRIC) Grant requires approval at the time of application.

Question: Steve Allen requested examples of BRIC Grants.
Answer: Small municipality on the eastern shore of Maryland, with flood issues, looking for large grant (approximately $20 million) that covered all sources of flooding. With that they plan to build stormwater facilities, green infrastructure, earthen berms, and install stormwater backflow valves. Also, acquisition projects for homeowners with flood prone properties was included as part of the overall project.

Virginia noted that today's participates would be provided with results from the worksheets from the May 24th Kick-Off Meeting. Michelle presented a spreadsheet of what has been received to date.

County and Municipal Participation in 2023 Hazard Mitigation Planning Process						
Participation Summary		Jefferson County				
		Bolivar	Charles Town	Harpers Ferry	Ranson	Shepherdstown
Meetings	**Steering Committee Kick-Off** May 24					✓
	Risk Assessment/Mitigation Workshop June 27	✓		✓	✓	✓
	Mitigation Strategy July 26					
	Draft Plan Review August 29					
	Public Meeting (TBD)					
Worksheets	**Identified Hazards and Risk**				✓	✓
	Capability Assessment Survey	✓				✓
	NFIP Survey					
	Evaluation of Identified Hazards & Risks	✓				✓
	Mitigation Action Review			✓		✓

Question: Steve Allen asked if there is anyone from any other municipalities that was present at the last meeting that we missed?
Answer: Virginia noted that there will be many upcoming opportunities to participate, particularly with an upcoming mailing to all municipalities.

3. Risk Assessment Overview and Hazard Identification

Michelle presented an overview of what was included in the 2018 plan versus what is being applied for in the 2023 plan. Newly added are:

- Karst / Sinkholes
- Utility Interruption
- Cyber Terrorism

Question: Monica Whyte asked What falls under cyber terrorism?
Answer: Virginia responded that this is looked at mainly from the perspective of how it effects the government, rather than individual community members. Is there an interruption to the continuity of the government services being provided? Typically we do this based on whether the attack would disrupt the ability to provide vital government services, continuity of operations then we look at whether the disruption to the continuity of operations planning.

Steve Allen remarked that Jefferson County recently received a cyber terrorism Homeland Security grant. Virginia added that we will include that in upcoming plan as a current capability.

- Hazard profiles in the Risk Assessment section will use the same format so the reader can easily refer one to the other and recognize the content – Working draft hazard chapters will be distributed for review with summary sheets as they are completed (Flood and Dam are currently completed).

Steve Allen pointed out that Jefferson County is the only County in West Virginia that does their own hazard mitigation plan, independent of other surrounding counties or regional planning development councils.

4. Hazard Identification and Profiles

Michelle discussed Hazard Profiles

- Location and Extent: *Where* does the hazard happen?
- Past Occurrence: *When and where* has the event happened in the past?
- Future Occurrence: *How likely* is it that the event will happen in the future?
- Range of Magnitude: *How minor or major* might the event be?
- Vulnerability Assessment: *What people, structures, and critical facilities* are at risk?

Virginia added that we will start sending out some chapters as working drafts for those who would like to review them as they are being developed so that feedback can be incorporated as we go.

Virginia explained Michael Baker's Standardized method to rank risks, which is done on a Countywide basis.

Risk Factor Value =
[(Probability x .30) + (Impact x .30) +
(Spatial Extent x .20) + (Warning Time x .10) + (Duration x .10)]

5. Exercise #1: Prioritizing Hazards using Risk Assessment

Results of Exercise 1 from the May 24th Kick-Off Meeting along with today's exercise were distributed. Attendees were asked to evaluate each hazard using a risk assessment ranking of 1 to 5 for five categories: Probability, Impact, Spatial Extent, Warning Time, and Duration. Instructions were given and ten minutes were provided before exercises were collected.

Virginia introduced two example hazards (floods and dams) and showed an overview of what to expect in the plan. She encouraged participants to review and provide any type of feedback in the comment section so that we can do background research prior to the July 26 workshop but stressed that feedback is welcome at any time.

Michelle discussed elements of the risk and vulnerability assessment completed as part of the flood hazard for this plan update. She explained how different assets were assessed and Jefferson County specific results from FEMA's Hazus Analysis. FEMA's Hazus Program provides standardized tools and data for estimating risk from earthquakes, floods, tsunamis, and hurricanes. Hazus models combine expertise from many disciplines to create actionable risk information that increases community resilience.

Virginia added that having a tool to assess both extent and depth can result in a much more accurate analysis. Michelle detailed the elements that go into factoring loss and impacts of loss.

Next Michelle discussed the Dam Failure Example, classifications, relative FEMA funding requirements, ideas, impacts, and mitigation strategies.

Virginia moved on to discussing details of the Mitigation Strategy, noting that each municipality must have 2 mitigation actions for each profile hazard. She noted that were 123 action items in the 2018 Jefferson County plan, some of which have been completed or may no longer be applicable. The committee members will be provided an opportunity in the upcoming portion of this meeting to provide status updates and determine what actions should be carried over. A decision should be made which of these get carried over into the upcoming plan.

6. Exercise Recap – Risk Ranking Evaluation

Virginia introduced Exercise 2: 2018 Mitigation Action Progress and detailed the instructions.

7. Mitigation Strategy Discussion

Virginia stressed the importance of the Mitigation Approach Section and identifying high priority risks and securing funding options. Will need to assess goals, objectives, actions and channels. This will be the updated approach.

Virginia distributed the Local Mitigation Planning Handbook and Mitigation Ideas publication for participants review: https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-planning-handbook_03-2013.pdf

https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf

She explained that FEMA mitigation planning guidance identifies four types of mitigation activities:

- Plans and Regulations
- Structure and Infrastructure Projects
- Natural Systems Protection
- Education and Awareness Programs
- Emergency Management

Virginia discussed Plans, Regulations and Plan Integration. Government authorities, policies, or codes that influence the way land and buildings are developed and built such as:

- Comprehensive Plans
- Subdivision Regulations
- Building Codes and Enforcement
- Capital improvement Programs
- Stormwater Management Plans
- Emergency Operations Plans

Gray Infrastructure (Structure and Infrastructure):

- Modifying existing structures and infrastructure to remove from a hazard area
- Construction of manmade structures to reduce impacts of hazards

Green Infrastructure (Natural Systems Protection):

- Actions that minimize damage and losses and also preserve or restore the functions of natural systems
    - Sediment and erosion control
    - Stream corridor restoration
    - Forest management

- Conservation easements
- Wetland restoration and preservation

Education and Awareness Programs:

- National preventative programs
- Mailings to hazard-prone communities
- Websites with maps and information
- Presentations to community groups
- Radio or TV spots

8. Exercise #2: Mitigation Action Progress (Take Home)

As take-home exercise was provided to hazard mitigation committee members to review and provide an update on hazard mitigation actions that were presented in the 2018 Plan. Committee members were asked to review each action and determine if it was completed, canceled, deferred or is ongoing.

9. Next Steps and Action Items

Virginia requested that participants please visit the following link and complete the survey regarding the 2023 plan update: https://www.surveymonkey.com/r/YFSNLX7

Next Meeting will be the Mitigation Strategy workshop on July 27. All tasks are detailed below:

Task	Dates
Full Project Timeline	May 2023 – September 2023
Kick Off Meeting	May 24, 2023
Hazard Analysis / Risk Assessment	June 27 (Scheduled) – 2hrs
Mitigation Strategy	July 26 – 4hr Workshop
Plan Writing	June – August
Draft Plan Review Public Meeting	August 29 – 2hrs
Deliver to WVEMD/FEMA for Review	August 1 and September 1
Distribute to Municipalities for Adoption	December

Hazard Mitigation Planning Team:

- Complete Mitigation Action Progress Forms by July 7
- Provide photos of disaster events from 2018-2022
- Review draft sections of plan as provided and full plan in Late August
- Check out the Project website and forward survey to stakeholders:

Project Team:

- Update project website with meeting materials
- Prepare draft plan

Resources & Contact Information

Jefferson County Hazard Mitigation Plan Update Project Website:

https://www.jeffersoncountywv.org/county-government/departments/homeland-security-and-emergency-management

Stephen S. Allen, Director sallen@jeffersoncountywv.org

Dick Myers, Deputy Director dmyers@jeffersoncountywv.org

Mark James - mark.james@mbakerintl.com

Virginia Smith - vsmith@smithp-d.com

Appendix D-4: Mitigation Workshop, July 26, 2023

From: James, Mark on behalf of Michele King
To: PerezMorales, Monica; callen; commissioner.ath@gmail.com; jimauser@yahoo.com; marmentrout@harpersferrywv.us; jennyharre@duck.com; abeall@shepherdstown.us; ebenites@jcda.net; clerk@shepherdstown.us; jbrockman@jeffersoncountywv.org; jbrown@harpersferrywv.us; tburns@jeffersoncountywv.org; tbatch2@firstenergycorp.com; georgex.butler@chp.dhs.gov; mcarter@jeffersoncountywv.org; bcaton@k12.wv.us; ecogle47@gmail.com; jfuhrer@comcast.net; rafaatura@gmail.com; nfernandez@hapus.edu; jfreund@fremontcarrridge.com; fritzbradley@gmail.com; bfrye@shepherd.edu; laura.gattis@mgaming.com; mgoldman0797@gmail.com; rgoodwin@jeffersoncountywv.org; jgrimont@jeffersoncountywv.org; jgrimont6@jeffersoncountywv.org; sanford.h.greathey.gov; sgrove@shepherdstown.us; donald.grubb@wvumedicine.org; thansen@jeffersoncountywv.org; cfellenchet2@gmail.com; chom@cesa.org; jesse.hott@redcross.org; commissioner.triciajackson@gmail.com; jackhouse@gmail.com; lkahn@jeffersoncountywv.org; dkuttner@charlestownpolice.com; ryan_levins@nps.gov; keith_mantheiy@fws.gov; timaraugh@shepherd.edu; alan.f.marchun@wv.gov; Paula@gsivc.org; middlewayvfc@aol.com; mselmorgan61@aol.com; emily.wells@mail.wvu.edu; pmorse@harpersferrywv.us; dmyers; kerry.murphy@fws.gov; jnewman@charlestownwv.us; sparuls@harpersferrywv.us; cmypaypl@yahoo.com; kpansons@mitchelsheaves.com; mpennington@downstreamstrategies.com; djstevens@ransonwv.us; jpippel@jtstwater.net; jpolczynski@jeffersoncountywv.org; terrence.j.reidy@wv.gov; rroberts@ransonwv.us; stephanie.a.rosier@wv.gov; jeffcrowa@gmail.com; rsell@grubwv.com; jshadle@jeffersoncountywv.org; jmschaw@frontiernet.net; eshuler@shepherd.edu; ashultz@ctubwv.com; mstein@cesa.org; gino.e.sisco@wv.gov; esmith@ifcwv.org; hacksblack62@yahoo.com; smsot.stephen@gmail.com; Rachel Snavely; hnyden@snydenrv.com; bsotomayor@fs.fed.us; rstanley@ransonwv.us; stolpho@cc; christopher.strong@noaa.gov; vinsmont.farm@gmail.com; joe.taylor@css.com; andrea.thomas@amwater.com; btrainor@charlestownwv.us; mayor@harpersferrywv.us; cvetzzoi@charlestownwv.us; mvoska@kentcarrridge.com; nathan.b.ward@wv.gov; awatson@ifcwv.org; william.m.werkle@wv.gov; bwelch@shepherdstown.us; jwells@thstinc.com; joyce.a.white@k12.wv.us; bsilvarth@frontier.net; monica.a.white@wv.gov; bwilling@k12.wv.us; twill@ransonwv.us; mzumfrilli@jeffersoncountywv.org
Cc: Virginia Smith; James, Mark; Stafford, Wesley; Hicks, Sheila
Subject: FW: EXTERNAL: Jefferson County HMP - Mitigation Strategy Workshop
Start: Wednesday, July 26, 2023 11:00:00 AM
End: Wednesday, July 26, 2023 3:00:00 PM
Location: Ranson Civic Center (432 W 2nd Ave, Ranson, WV 25438)
Importance: High

-----Original Appointment-----
From: Michele King <mking@wvnhp-d.com>
Sent: Thursday, July 13, 2023 2:35 PM
To: Michele King; sallen; commissioner.ath@gmail.com; jimauser@yahoo.com; marmentrout@harpersferrywv.us; jennyharre@duck.com; abeall@shepherdstown.us; ebenites@jcda.net; clerk@shepherdstown.us; jbrockman@jeffersoncountywv.org; jbrown@harpersferrywv.us; bburns@jeffersoncountywv.org; tbatch2@firstenergycorp.com; georgex.butler@chp.dhs.gov; mcarter@jeffersoncountywv.org; bcaton@k12.wv.us; ecogle47@gmail.com; jfuhrer@comcast.net; rafaatura@gmail.com; nfernandez@hapus.edu; jfreund@fremontcarrridge.com; fritzbradley@gmail.com; bfrye@shepherd.edu; laura.gattis@mgaming.com; mgoldman0797@gmail.com; rgoodwin@jeffersoncountywv.org; jgrimont@jeffersoncountywv.org; sanford.h.green@wv.gov; sgrove@shepherdstown.us; donald.grubb@wvumedicine.org; thansen@jeffersoncountywv.org; cfellenchet2@gmail.com; chom@cesa.org; jesse.hott@redcross.org; commissioner.triciajackson@gmail.com; warren.a.jenkins@chp.dhs.gov; suraj.khanal@chp.dhs.gov; jcclemuse@gmail.com; lkahn@jeffersoncountywv.org; dcutcher@charlestownpolice.com; ryan_levins@nps.gov; keith_mantheiy@fws.gov; timaraugh@shepherd.edu; alan.f.marchun@wv.gov; Paula@gsivc.org; middlewayvfc@aol.com; mselmorgan61@aol.com; emily.wells@mail.wvu.edu; pmorse@harpersferrywv.us; dmyers; kerry.murphy@fws.gov; jnewman@charlestownwv.us; sparuls@harpersferrywv.us; cmypaypl@yahoo.com; kpansons@mitchelsheaves.com; mpennington@downstreamstrategies.com; djstevens@ransonwv.us; jpippel@jtstwater.net; jpolczynski@jeffersoncountywv.org; terrence.j.reidy@wv.gov; rroberts@ransonwv.us; stephanie.a.rosier@wv.gov; jeffcrowa@gmail.com; rsell@grubwv.com; jshadle@jeffersoncountywv.org; jmschaw@frontiernet.net; eshuler@shepherd.edu; ashultz@ctubwv.com; mstein@cesa.org; gino.e.sisco@wv.gov; esmith@ifcwv.org; hacksblack62@yahoo.com; smsot.stephen@gmail.com; Rachel Snavely; hnyden@snydenrv.com; bsotomayor@fs.fed.us; rstanley@ransonwv.us; stolpho@cc; christopher.strong@noaa.gov; vinsmont.farm@gmail.com; joe.taylor@css.com; andrea.thomas@amwater.com; btrainor@charlestownwv.us; mayor@harpersferrywv.us; cvetzzoi@charlestownwv.us; mvoska@kentcarrridge.com; nathan.b.ward@wv.gov; awatson@ifcwv.org; william.m.werkle@wv.gov; bwelch@shepherdstown.us; jwells@thstinc.com; joyce.a.white@k12.wv.us; bsilvarth@frontier.net; monica.a.white@wv.gov; bwilling@k12.wv.us; twill@ransonwv.us; mzumfrilli@jeffersoncountywv.org
Cc: Virginia Smith; James, Mark; Stafford, Wesley; Hicks, Sheila; PerezMorales, Monica
Subject: EXTERNAL: Jefferson County HMP - Mitigation Strategy Workshop
When: Wednesday, July 26, 2023 11:00 AM-3:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Ranson Civic Center (432 W 2nd Ave, Ranson, WV 25438)
Importance: High

Please join us for the Jefferson County Mitigation Strategy Workshop on July 26th, at 11:00 AM. This meeting will be held in-person at the Ranson Civic Center.

The Mitigation Workshop provides an opportunity discuss and develop mitigation strategies that could be implemented over the next five-year planning cycle. It assists with developing strategies that are most cost-effective and appropriate for mitigating the effects of hazards identified in the plan. Your participation in the Mitigation Strategy Workshop is essential to ensuring that we have varied and robust stakeholder involvement.

Please accept or decline this workshop calendar invite to assist us with planning for the number of lunches that will be provided and materials.

Mitigation Strategy Workshop

Date: July 26, 2022
Time: 11:00 AM
Location:
Ranson Civic Center

432 W 2nd Ave

Ranson, WV 25438)

Thank you,
Michele King

Microsoft Teams meeting

Join on your computer, mobile app or room device

Click here to join the meeting <https://teams.microsoft.com/l/meetup-join/19%3ameeting_YmJkMDc0MTUtYWFlOS002DU3LWFlNzgtNWMzOWJjMmJmMzgx%40thread.v2/0?context=%7b%22Tid%22%3a%220fbc7675-0331-40c8-9f88-cb199a2df833%22%2c%22Oid%22%3a%2259e753fc-82e7-493a-9ce9-bb14a5dd01b7%22%7d>

Meeting ID: 229 562 518 671
Passcode: 5GkvtS

Download Teams <https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.microsoft.com%2Fen-us%2Fmicrosoft-teams%2Fdownload-app&data=05%7C01%7CMark.James%40mbakertel.com%7Ced15250d7239496fcc0108bfbf83c6f2%7C4e1ee3db4df6414267b9bec15f171ca4%7C0%7C0%7C638248700843168429%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=hOCwdcX%2FKKQMsoKhySqG4nnMIC88XYsQBjMMP%2ByGvXA7%3D&reserved=0> | Join on the web <https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.microsoft.com%2Fmicrosoft-teams%2Fjoin-a-meeting&data=05%7C01%7CMark.James%40mbakertel.com%7Ced15250d7239496fcc0108bfbf83c6f2%7C4e1ee3db4df6414267b9bec15f171ca4%7C0%7C0%7C638248700843168429%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=2fdfIY%2B%2FqSQU43V12FRbWsfGRQfoInemAyauPprOfDSwe%3D&reserved=0>

Learn More <https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Faka.ms%2FJoinTeamsMeeting&data=05%7C01%7CMark.James%40mbakertel.com%7Ced15250d7239496fcc0108bfbf83c6f2%7C4e1ee3db4df6414267b9bec15f171ca4%7C0%7C0%7C638248700843168429%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=qhZxDKQGl43uRlGCamKUjVyfmdLdAIEizMfdIwmiDQg%3D&reserved=0> | Meeting options <https://teams.microsoft.com/meetingOptions/?organizerId=59e753fc-82e7-493a-9ce9-bb14a5dd01b7&tenantId=0fc76775-0331-40e8-9f88-cb199a2df833&threadId=19_meeting_YmJkMDc0MTUtYWFlOS002DU3LWFlNzgtNWMzOWJjMmJmMzgx@thread.v2&messageId=0&language=en-US>

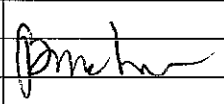
Jefferson County Homeland Security and Emergency Management
28 Industrial Boulevard
Kearneysville, WV 25430
Phone: 304-728-3329 or 304-728-3290
Fax: 304-728-3320
Wednesday - July 26, 2023 / Ranson Civic Center 11:00 am. - 3:00 pm.

Last Update 7/25/2023
Hazard Mitigation and Risk Assessment
Update 2023

Name (PRINT)	Signature	Agency	Phone	E-mail	July 26th Workshop	Mitigation Workshop Group
Allen, Steve		JCHSEM	(304) 728-3290	sallen@jeffersoncountywv.org	Accepted	Emergency Services & Public Health
Armentrout, Michael		Harpers Ferry Police Department	304-535-6366	marmentrout@harpersferrywv.us	Tentative	Municipal
~~Ath, Glen~~ no longer commissioner		Jefferson County Commission		commissioner.ath@gmail.com		Structure & Infrastructure Projects
Auxer, Jim		City of Shepherdstown	(304) 876-2398	jimauxer@yahoo.com		Municipal
Barre, Jennifer		Citizen	989-404-0368	~~jennybarre@duck.com~~ Barre.Jennifer[redacted]@gmail.com		Education and Public Awareness
Beall, Andy		City of Shepherdstown	(304) 876-6858	abeall@shepherdstown.us		Municipal
Benites-Im, Edwina		Jeff. Co. Development Authority	(304) 728-3255	ebenites@jcda.net		Local Planning and Regulations
Boyd, Amy		City of Shepherdstown	(304) 876-2398	clerk@shepherdstown.us		Municipal
Brockman, Jennie		JC Planning and Zoning	(304) 728-3228	jbrockman@jeffersoncountywv.org		Local Planning and Regulations
Brown, J.D.		Harpers Ferry Police Department/PT	(304) 535-6366	jbrown@harpersferrywv.us	Tentative	Municipal
Burns, Becky		JC Engineering Department	(304) 728-3257	bburns@jeffersoncountywv.org	Accepted	Natural Systems Protection
Butcher, Thomas		Potomac Edision	(304) 671-3860	tbutch2@firstenergycorp.com		Structure & Infrastructure Projects
Butler, George		CBP/ATC	304-724-5834	george.s.butler@cbp.dhs.gov	Accepted	Emergency Services & Public Health
Carter, Mason		JC Engineering Department	(304) 728-3257	mcarter@jeffersoncountywv.org	Accepted	Structure & Infrastructure Projects
Caton, Brandon		Jefferson County BOE	304-725-5711	bcaton@k12.wv.us	Accepted	Education and Public Awareness
Cogle, Earl		Blue Ridge Fire Company	(304) 616-8557	ecogle47@gmail.com		Emergency Services & Public Health
Dettmer, Helen		Town of Bolivar	(304) 535-2476	jhdettmer@comcast.net		Municipal
Edwards, Sallie		Volunteer	(808) 285-2165	salsamurai@gmail.com		Education and Public Awareness
Fernandes, Nuno		American Public University	(877) 755-2787	nfernandes@apus.edu	Declined	Education and Public Awareness
Freund, Jon		Kent Cartridge	(304) 724-3670	jfreund@kentcartridge.com	Declined	
Fritts, Bradley		Bakerton Fire Company	(304) 866-1298	frittsbradley@gmail.com		Emergency Services & Public Health
Frye, Holly Morgan		Shepherd University	(304) 876-5402	hfrye@shepherd.edu		Emergency Services & Public Health
Gatto, Laura		Hollywood Casino	(304) 724-4342	laura.gatto@pngaming.com	Declined	Education and Public Awareness
Goldman, Michele		JC COAD	(540) 539-0498	mgoldman9797@gmail.com		Education and Public Awareness
Goodwin, Roger		JC Engineering Dept.	(304) 728-3256	rgoodwin@jeffersoncountywv.org		Structure & Infrastructure Projects
✓ ~~Gormont, Jessica~~		Jefferson County GIS	(304) 724-8986	jgormont@jeffersoncountywv.org	Accepted	Education and Public Awareness
Green, Sanford		WVDHSEM	(304) 558-5380	sanford.h.green@wv.gov	Declined	Emergency Services & Public Health
Grove, Stephanie		City of Shepherdstown	304-870-4331	sgrove@shepherdstown.us		Municipal
Grubb, Donnie		WVU Medicine	(304) 596-5100	donald.grubb@wvumedicine.org	Accepted	Emergency Services & Public Health

Hansen, Tom		JC Sheriff's Dept.	(304) 728-3205	thansen@jeffersoncountywv.org		Emergency Services & Public Health
Herbst, Larry Jr.		Citizens Fire Company	304-995-7674	cfcfirechief2@gmail.com		Emergency Services & Public Health
Horn, Craig		JC Emergency Services Agency	(304) 839-6319	chorn@jcesa.org		Education and Public Awareness
Hott, Jesse		American Red Cross	(304) 588-0724	jesse.hott@redcross.org	Accepted	Emergency Services & Public Health
Huffman, Ashley		Summit Point Raceway	540-336-0056	safety@summitpointtraining.com		Education and Public Awareness
Jackson, Tricia		Jefferson County Commission		commissioner.triciajackson@gmail.com	Tentative	Natural Systems Protection
Jenkins, Andrew W.		CBP/ATC	304-839-1930	warren.a.jenkins@cbp.dhs.gov		Emergency Services & Public Health
Jimeno, Dan		Town of Bolivar	304-535-2476	dan.jimeno@Rationsoft.com	Accepted	Municipal
Khanal, Suraj		CBP/ATC		suraj.khanal@cbp.dhs.gov		Emergency Services & Public Health
Krouse, Jennifer		Jefferson County Commission	304-404-7878	jcckrouse@gmail.com	Accepted	Structure & Infrastructure Projects
Kuhn, Laura		JC Maintenance Department	(304) 728-3355	lkuhn@jeffersoncountywv.org		Structure & Infrastructure Projects
Kutcher, Chris		Charles Town Police Department	304-725-2714	ckutcher@charlestownpolice.com		Municipal
Levins, Ryan		Harpers Ferry (Nat Parks Service)	(304) 535-6232	ryan_levins@nps.gov	Tentative	Natural Systems Protection
Mantheiy, Keith		US Fish and Wildlife Service	(304) 876-7224	keith_mantheiy@fws.gov		Natural Systems Protection
Maraugha, Lori		Shepherd University	(304) 876-5374	lmaraugh@shepherd.edu		Education and Public Awareness
Marchun, Alan		WV Public Health		alan.f.marchun@wv.gov		Education and Public Awareness
Marrone-Reese, Paula		Good Shepherd Inter-Faith	(304) 876-3325	Paula@gsivc.org	Accepted	Education and Public Awareness
Mood, Michael		Middleway Fire Company	(304) 582-0204	middlewayvfc@aol.com		Emergency Services & Public Health
Morgan, Ross		Shepherdstown Fire Company	(304) 876-2311	rosslmorgan61@aol.com		Emergency Services & Public Health
Morrow, Emily		WVU Extension Service	(304) 728-7413	emily.wells@mail.wvu.edu		Natural Systems Protection
Morse, Pat		Harpers Ferry	304-535-2206	pmorse@harpersferrywv.us		Municipal
Murphy, Kerry		Fish and Wildlife Service	304-876-7745	kerry_murphy@fws.gov	Declined	Natural Systems Protection
Myers, Dick		Jefferson County OHSEM	304-728-3329	dmyers@jeffersoncountywv.org	Accepted	Education and Public Awareness
Newman, James		Charles Town	304-724-3251	jnewman@charlestownwv.us	Accepted	Municipal
Paradis, Steve		Harpers Ferry Water Works	(304) 676-2317	sparadis@harpersferrywv.us		Structure & Infrastructure Projects
Parkin, Jonnie		Volunteer	(540) 287-3481	compujedijp@yahoo.com		Education and Public Awareness
Parsons, Kelly		Nichols, Dehaven & Associates	(304) 725-6525	kparsons@nicholsdehaven.com	Declined	Natural Systems Protection
Pennington, Matt		Downstream Strategies	(304) 707-1920	mpennington@downstreamstrategies.com		Natural Systems Protection
Pierson, Duke		City of Ranson	(304) 724-1010	dpierson@ransonwv.us		Municipal
Pippel, Jeff		Jefferson Utilities	304-728-2077	jpippel@juiwater.net	Accepted	Structure & Infrastructure Projects
Polczynski, Jeff		JC Emergency Communications	(304) 278-3317	jpolczynski@jeffersoncountywv.org		Emergency Services & Public Health
Reel, Stephanie		Jefferson Utilities, Inc.	304-728-2077	sreel@juiwater.net	Accepted	Structure & Infrastructure Projects
Reidy, Terrence		Jeff. Co. Health Department	(304) 728-8416	terrence.j.reidy@wv.gov	Accepted	Emergency Services & Public Health
Roberts, Robbie		Ranson Police Department	(304) 728-5186	rroberts@ransonwv.us		Municipal

Rosier, Stephanie		WVEMD	304-558-5380	stephanie.a.rosier@wv.gov		Emergency Services & Public Health
Schwartz, Jeff		JC Solid Waste Authority	(304) 725-8082	jeffcoswa@gmail.com		Structure & Infrastructure Projects
Sell, Robert	Robert S. Sell	Jefferson County Sheriff's Office	304-728-3205	rsell@jcsdwv.com	Accepted	Emergency Services & Public Health
Shadle, Jackie	Jackie Shadle	Jefferson County County Clerk		jshadle@jeffersoncountywv.org	Accepted	Municipal
Sherwood, John		Volunteer	(304) 728-0180	jmsctwv@frontiernet.net		Emergency Services & Public Health
Shuler, Eric		Shepherd University	(304) 876-5644	eshuler@shepherd.edu		Education and Public Awareness
Shultz, April		Charles Town Utilities	(304) 725-2316	ashultz@ctubwv.com		Municipal
Shutts, Ronnie		Friendship Fire Company	(304) 283-1560	ronnieshutts@yahoo.com		Emergency Services & Public Health
Sine, Mike		JC Emergency Services Agency	(304) 728-3287	msine@jcesa.org	Accepted	Emergency Services & Public Health
Sisco, Gino		Jeff. Co. Health Department	(304) 728-8416	gino.e.sisco@wv.gov		Emergency Services & Public Health
Smith, Ed		Independent Fire Company	(304) 279-2938	esmith@ifcwv.org		Emergency Services & Public Health
Smith, Josh		Bakerton Fire Company	(304) 676-0987	backnblack62@yahoo.com		Emergency Services & Public Health
Smoot, Stephen		Rep. Alex Mooney's Office	(304) 264-8810	smoot.stephen@gmail.com		Structure & Infrastructure Projects
Snavely, Rachel		Region 9	(304) 263-1973	rsnavely@region9wv.com	Accepted	Structure & Infrastructure Projects
Snyder, Lee		Snyder Enviromental	(304) 725-9140	lsnyder@snyderenv.com		Natural Systems Protection
Stanley, Reiley		Ranson	304-724-3861	rstanley@ransonwv.us	Accepted	Municipal
Stolipher, Steve		Jefferson County Commission	304-278-4212	stolipherjcc@gmail.com		Structure & Infrastructure Projects
Strong, Chris		National Weather Service	(571) 888-3500	christopher.strong@noaa.gov	Declined	Emergency Services & Public Health
Tabb, Jane		Jefferson County Commission	(304) 671-1213	vinemont.farm@gmail.com		Structure & Infrastructure Projects
Thomas, Andrea		American Water	(304) 340-2047	andrea.thomas@amwater.com	Tentative	Natural Systems Protection
Trainor, Bob		City of Charles Town Mayor	(304) 724-3254	btrainor@charlestownwv.us		Municipal
Vaughn, Gregory		Town of Harpers Ferry	(304) 535-2206	mayor@harpersferrywv.us		Municipal
Vezzosi, Carolyn		Charles Town	304-724-3250	cvezzosi@charlestownwv.us		Municipal
Vosika, Matt		Kent Cartridge (Amo Company)		mvosika@kentcartridge.com		Emergency Services & Public Health
Ware, Nathan		WV Dept. of Highways	(304) 725-5821	nathan.b.ware@wv.gov		Structure & Infrastructure Projects
Watson, Adam		Independent Fire Company	(304) 279-4774	awatson@ifcwv.org		Emergency Services & Public Health
Weikle, Mason		Jeff. Co. Health Department	(304) 728-8416	william.m.weikle@wv.gov	Accepted	Natural Systems Protection
Welch, Frank	Frank Welch	Shepherdstown Water	(304) 876-3322	fwelch@shepherdstown.us	Accepted	Structure & Infrastructure Projects
White, Joyce		JC Board of Education	(304) 728-9265	joyce.a.white@k12.wv.us		Education and Public Awareness
Whittington, Laura		Bolivar	304-535-2476	bolivarth@frontiernet.net		Municipal
Whyte, Monica	Monica Whyte	WV Health Department	(304) 725-9453	monica.a.whyte@wv.gov	Accepted	Education and Public Awareness
Willingham, Larry		JC Board of Education	(304) 671-3927	lwilling@k12.wv.us		Education and Public Awareness
Wilson, Ted		Summit Point Raceway	304-725-8444	safety@summitpointtraining.com		Education and Public Awareness
Wilt, Todd		City of Ranson	(304) 279-4151	twilt@ransonwv.us		Municipal

Zonfrilli, Makayla		Jefferson County Administator	814-979-3616	mzonfrilli@jeffersoncountywv.org	Accepted	Structure & Infrastructure Projects
Low, Bruce		Citizen	304-582-1684	bruce.low@aol.com	Accepted	Education and Public Awareness
Nissel, John		Charles Town City Manager	240-818-2472	nisseljohn@gmail.com		Municipal
Burgess, Russell		Information Technology Director	304-728-5605	rburgess@jeffersoncountywv.org	Accepted	Structure & Infrastructure Projects
Lutz, Nancy		Eastern Panhandle Conservation	681-247-3010	clawdagh@gmail.com	Accepted	Natural Systems Protection
Lutz, Daniel		Eastern Panhandle Conservation	304-886-5771	p.lutz007@gmail.com		
Tabb, David		Eastern Panhandle Conservation	304-676-5976	sssi27@yahoo.com		Natural Systems Protection
James, Mark		Michael Baker, Inc.		Mark.James@mbakerintl.com	Accepted	N/A
Virginia Smith		Smith P&D	301-724-7611	vsmith@smithp-d.com	Accepted	N/A
Michele King		Smith P&D	301-724-7611	mking@smithp-d.com	Accepted	N/A
PerezMorales, Monica		Michael Baker, Inc.		Monica.PerezMorales@mbakerintl.com		N/A

Jefferson County Homeland Security and Emergency Management
28 Industrial Boulevard
Kearneysville, WV 25430
Phone: 304-728-3329 or 304-728-3290
Fax: 304-728-3320
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Last Update 7/25/2023
Hazard Mitigation and Risk Assessment
Update 2023

Name (PRINT)	Signature	Agency	Phone	E-mail
Allen, Steve		JCHSEM	(304) 728-3290	sallen@jeffersoncountywv.org
Armentrout, Michael		Harpers Ferry Police Department	304-535-6366	marmentrout@harpersferrywv.us
Ath, Clare		Jefferson County Commission		commissioner.ath@gmail.com
Auxer, Jim		City of Shepherdstown	(304) 876-2398	jimauxer@yahoo.com
Barre, Jennifer		Citizen	989-404-0368	jennybarre@duck.com
Beall, Andy		City of Shepherdstown	(304) 876-6858	abeall@shepherdstown.us
Benites-Im, Edwina		Jeff. Co. Development Authority	(304) 728-3255	ebenites@jcda.net
Boyd, Amy		City of Shepherdstown	(304) 876-2398	clerk@shepherdstown.us
Brockman, Jennie		JC Planning and Zoning	(304) 728-3228	jbrockman@jeffersoncountywv.org
Brown, J.D.		Harpers Ferry Police Department/PT	(304) 535-6366	jbrown@harpersferrywv.us
Burns, Becky		JC Engineering Department	(304) 728-3257	bburns@jeffersoncountywv.org
Butcher, Thomas		Potomac Edision	(304) 671-3860	tbutch2@firstenergycorp.com
Butler, George		CBP/ATC	304-724-5834	george.s.butler@cbp.dhs.gov
Carter, Mason		JC Engineering Department	(304) 728-3257	mcarter@jeffersoncountywv.org
Caton, Brandon		Jefferson County BOE	304-725-5711	bcaton@k12.wv.us
Cogle, Earl		Blue Ridge Fire Company	(304) 616-8557	ecogle47@gmail.com
Dettmer, Helen		Town of Bolivar	(304) 535-2476	jhdettmer@comcast.net
Edwards, Sallie		Volunteer	(808) 285-2165	salsamurai@gmail.com
Fernandes, Nuno		American Public University	(877) 755-2787	nfernandes@apus.edu
Freund, Jon		Kent Cartridge	(304) 724-3670	jfreund@kentcartridge.com
Fritts, Bradley		Bakerton Fire Company	(304) 866-1298	frittsbradley@gmail.com

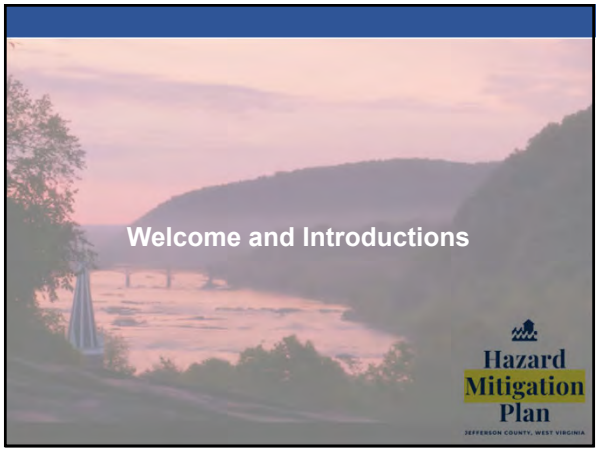
Ray Seitz - EPCD -

1

Agenda

- Welcome and Introductions
- Recap of Risk Assessment Meeting
- Mitigation Workshop
  - Goals- Review & Update
  - Mitigation Actions- Review, Update, & Add
  - "New" Mitigation Projects- Develop for 2023 HMP
- Next Steps

2



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4

What We Covered

- Discussed the 2023 hazard mitigation planning process and requirements
- Discussed changes in risk & hazards since the 2018 HMP
- Ranked hazards based on risk
- Initiated review of 2018 Mitigation Actions

5

Hazard Profiles

2023 Identified Hazards

Natural Hazards

- Drought
- Earthquake
- Extreme Temperatures
- Flood
- Invasive Species
- Landslide & Subsidence
- Public Health Crisis
- Severe Thunderstorm and Hail
- Severe Wind and Tornado
- Severe Winter Storm
- Wild and Urban Fires
- Karst / Sinkholes

Human-Made Hazards

- Dam Failure
- Civil Disturbance
- Hazardous Materials
- Terrorism
- Utility Interruption
- Cyber Terrorism

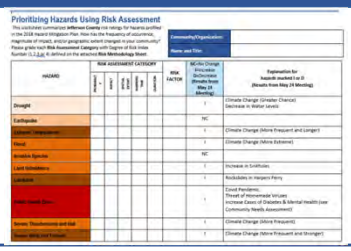
Blue denotes newly added hazards

6

Rank Hazards

- Standardized method to rank risks
- Done on a Countywide basis

Risk Factor Value = [(Probability x .30) + (Impact x .30) + (Spatial Extent x .20) + (Warning Time x .10) + (Duration x .10)]



7

2023 Hazard Rankings

Drought	2.3
Earthquake	1.7
Extreme Temperatures	2.5
Flood	2.4
Invasive Species	2.0
Landslide / Land Subsidence	2.1
Public Health Crisis	2.7
Severe Thunderstorm and Hail	2.4
Severe Wind and Tornado	2.1
Severe Winter Storm	2.5
Wild and Urban Fires	2.3
Dam Failure	1.9
Civil Disturbance	2.0
Hazardous Materials	2.4
Terrorism	2.3
Karst / Sinkholes	1.9
Cyber Terrorism	2.7
Utility Interruption	2.6

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Municipal Participation Status

If you haven't already, please fill out and return any worksheets you may have missed!

County and Municipal Participation in 2023 Hazard Mitigation Planning Process

Participation Summary	Jefferson County				
	Bolivar	Charles Town	Harpers Ferry	Ranson	Shepherdstown
Steering Committee Kick-Off May 24					✓
Risk Assessment/Mitigation Workshop June 27	✓		✓	✓	✓
Mitigation Strategy July 26					
Draft Plan Review August 29					
Public Meeting (TBD)					
Capability Assessment Survey	✓				✓
Evaluation of Identified Hazards & Risks	✓				✓
Mitigation Action Review		✓	✓		✓

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Local Planning and Regulations

Natural Systems Protection

Structure & Infrastructure

Education and Awareness Programs

Emergency Services & Public Health

Municipal

We will be working in five small groups for the duration of the workshop.

Find your group - refer to Group Listing. Placards denoting each group are on table or table cluster.

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- ***Goals:*** General guidelines that describe what your community would like to achieve.
- ***Actions:*** The specific activities a community will take to reduce or eliminate risks.

New

Projects: Prioritized action(s) including background discussion, responsible entity, partners, ideas for integration, and potential funding sources.

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What we will accomplish during this workshop:

- ✓ Review and update plan goals.
- ✓ Review mitigation actions for integration in 2023 HMP and add newly identified actions.
- ✓ Develop project sheets.

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Keep in mind:

- The County and each municipality must have mitigation action(s) for each profiled hazard.
- Mitigation actions should be realistic and achievable.
- 2018 Jefferson County HMP: carried over and modified for HMPC review.
- Newly proposed for HMPC consideration.
- Opportunity for HMPC members to add new actions.

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Breakout Session 1–
Steps to undertake as a group for Session 1:

1. Assign a **scribe** for your group.
2. Review Mitigation Goals identified in the 2018 Jefferson County Hazard Mitigation Plan, WV State Hazard Mitigation Plan, & Region 9 Berkeley & Morgan County Hazard Mitigation Plan (see **Goals Handout**.)
   - Keep, Modify, Delete
   - Opportunity to add new

Goals are not intended to identify specific mitigation actions but identify the overall improvements you want to achieve. Remember that goals are general guidelines that describe what you want to achieve in the long run.

*Directions are included on the **Handout**. One handout per group (scribe's) will be collected at the end of the workshop.*

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- FEMA mitigation planning guidance identifies types of mitigation activities for various hazards.
- Provided for reference: Mitigation Ideas- A Resource for Reducing Risk to Natural Hazards.

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Breakout Session 1– Continued
Steps to undertake as a group for Session 1:

3. Review new mitigation actions (Mitigation Action Tables.) These actions were gathered throughout the plan development process or carried over from the previous 2018 HMP.
4. Use the Yes/No Column to determine if each action listed on the table should be included in the 2023 HMP.
5. Add any new action items that your group would like to include on the blank table.

One handout per group (scribe's) will be collected at the end of the workshop.

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Preparing for Group Report Out

Consider the following:

1. Choose one (1) speaker to represent your group.
2. How many mitigation actions did your group review?
3. How many of those mitigation actions were selected by your group for inclusion in the 2023 HMP?
4. Did your group add any new mitigation actions?
5. Which mitigation actions resonated the most with your group? Please provide the three mitigation actions selected by your group.
6. Make a cheat sheet for your speaker and provide him/her with answers to questions #1 - #4, and the three (3) actions that resonated the most with your group.

Note: Flip chart may be used to assist the group appointed speaker during report out.

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Group Report Out

- Education and Awareness Programs
- Structure & Infrastructure
- Emergency Services & Public Health
- Local Regulations & Plans and Natural Systems Protection
- Municipal

Note: Flip chart may be used to assist the group appointed speaker during report out.

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Breakout Session 2– Mitigation Project Worksheets

1. Using the mitigation actions that your group discussed during the group report out session, complete Mitigation Implementation Project Sheet. Please see the direction sheet which will assist your group.
2. We are looking for these project sheets to be completed to the greatest extent possible based on the group's knowledge and expertise.
3. Please complete for any addition mitigation actions that your group feels should be considered as priority.

**One handout per group (scribe's) will be collected at the end of the workshop.*

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Schedule and Meetings

Task	Dates
Full Project Timeline	May 2023 – September 2023
Kick Off Meeting	May 24, 2023
Hazard Analysis / Risk Assessment	June 27, 2023
Mitigation Strategy	**July 26 – 4hr Workshop**
Plan Writing	June – August
Draft Plan Review Public Meeting	August 29 – 2hrs
Local/WVEMD/FEMA Review Period	August – October
Distribute to Municipalities for Adoption	December

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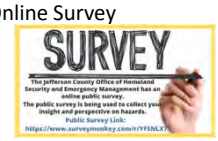
Next Steps

- Promote Online Survey



- Project Sheets for Final Review & HMPC Online Prioritization Survey
- Cohesive Draft Plan Review & Comment

Thank you for attending this Mitigation Workshop!

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Questions?

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Thank You

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vsmith@smithp-d.com
(301) 724-7611

Mitigation Goals Anaysis

Group:	

This worksheet summarizes **Jefferson County** 4 goals that were profiled in the 2018 Hazard Mitigation Plan. Determine if the goal should be kept, deleted, or modified. Please provide adjustments to the goal in the space provided, as applicable. Add any new goals that your group would like to propose to the blank table. The 2023 State hazard mitigation plan goals as well as the Region 9 goals are provided reference purposes.

2018 Jefferson County Goals	Action
Enhance resiliency of water resources by providing it where it is needed and managing it where it is abundant.	☐ Keep ☐ Delete ☐ Modify
Reduce the vulnerability of populations in risk areas from all hazards.	☐ Keep ☐ Delete ☐ Modify
Improve communication resiliency through planning, partnerships, and infrastructure development.	☐ Keep ☐ Delete ☐ Modify
Promote all-hazards awareness, education, and training to the public, responders, and officials.	☐ Keep ☐ Delete ☐ Modify

New Mitigation Goals

New 2023 Jefferson County Goals

Reference

2022 Region 9 Hazard Mitigation Plan – Berkely	2022 Region 9 Hazard Mitigation Plan – Morgan	2023 West Virginia State Plan Goals
Protect surface water and groundwater sources by limiting future development in floodplains and flood damage, effectively managing stormwater, and reducing the possibility of source water contamination.	Minimize flood damages and risks from flood hazards in Morgan County.	Reduce or eliminate the impact of hazards on infrastructure throughout the State
Reduce the current and future risks from hazards in Berkeley County.	Reduce the current and future risks from hazards in Morgan County.	Align and integrate programs related to reducing long-term vulnerability to hazard
Improve emergency preparedness and response in Berkeley County, Martinsburg, and Hedgesville.	Improve emergency preparedness in Morgan County, Bath, and Paw Paw.	Enhance and support mitigation programs and activities at the local (regional and county) level to reduce long-term vulnerability with minimal negative impacts to community development efforts.
Promote hazard mitigation as a public value in recognition of its importance to the health, safety, and welfare of the population.	Reduce the potential impact of natural and man-made disasters on private property.	Provide consistent, continual education of the whole community on reducing long-term vulnerability throughout the State of West Virginia

Organization:	
Name and Title:	

Please complete this worksheet for each new mitigation action. See *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards* for sample mitigation actions to reduce risk from environmental hazards.

Action Title	
Assessing the Risk	
Hazard(s) Addressed	
Describing the Action	
Background/Issue Action Addresses	
Action Description	
Evaluating the Action	
Cost Estimate	
Priority (Low / High)	
Implementing the Action	
Responsible Party	
Potential Partners	
Potential funding sources	
Timeline (1-2 Short / Long 3-5)	
Integration Opportunities (if any)	

Please email completed form to shiela.hicks@mbakerintl.com

Jefferson County Mitigation Project Prioritization Forms

Instructions: During the mitigation workshop, **14 projects** were identified for Jefferson County. Each project includes:

- Associated Action Items,
- Applicable Hazards,
- Location(s),
- Project Discussion,
- Responsible Entity,
- Partners,
- Cost Estimate,
- Potential Funding,
- Benefits (Losses Avoided),
- Ideas for Integration, and
- Timeline.

This is a fillable form, please complete the six (6) questions **that follow each project sheet**. Your answers will be compiled and used for project priority ranking purposes. This process and priority ranking results will be included in the Mitigation Strategy section of the plan.

Please complete fillable form and return to mking@smithp-d.com by **COB Friday, August 18, 2023.**

For reference, project and associated page number(s) are provided below.

Project 1: Review Codes for Hazard Mitigation Integration Opportunities – pages 2 & 3
Project 2: Extreme Heat Emergency Plan – pages 5 & 6
Project 3: Karst Mitigation Plan – pages 8 & 9
Project 4: Snow Removal MOU and Debris Management Plan – pages 11 & 12
Project 5: Dark Grid Training & Exercises – page 14
Project 6: County Cyber Security – page 16
Project 7: Green Infrastructure Plan – pages 18-20
Project 8: Invasive Species Detection & Eradication – page 22
Project 9: National Flood Insurance Program – pages 24-25
Project 10: Generator Safety Tips – page 27
Project 11: Cyber Preparedness – page 29
Project 12: Optimus Prime Power – page 31
Project 13: Citizen Preparedness Training and Outreach – pages 33 & 34
Project 14: Hazard Materials Response Plan and Training – page 36

Project 1: Review Codes for Hazard Mitigation Integration Opportunities	
Action Item(s):	**LPR #12:** Integration of hazard planning into both the County and Municipal planning frameworks, which will lead to development patterns and redevelopment that decreases hazard risk and vulnerability. To achieve and facilitate integration, Jefferson County and the Towns should review how planning documents, policies, codes, and programs are maintained and implemented, and the roles of people, agencies, and departments in evaluating and updating them. This depth of review will enable the County and the Towns to identify opportunities for plan integration, resulting in effective ways to reduce hazard vulnerability. Compare areas slated for growth including redevelopment with hazard risk areas.
Project Title:	**Review Codes for Hazard Mitigation Integration Opportunities**
Hazard(s):	All Hazards
Location(s):	Countywide & Municipalities
Project Discussion:	Having modern codes in place before a disaster can keep development out of high-risk areas and help the County and its municipalities achieve resilient recovery. Emergency managers and code officials should work with other local, county and state officials to ensure codes advance the mitigation goals of the county. The goals and objectives included in the Hazard Mitigation Plan are a good starting point when reviewing code for mitigation integration. When possible, higher standards should be included in zoning updates, comprehensive plans and capital improvement plans so the community can rebuild resiliently after disasters. The Alliance for National and Community Resilience created Community Resilience Benchmarks that encourage communities to review their existing buildings and suggest strategies for high-performance designs. Starting a review and adoption cycle at regular intervals, and not just after a disaster, will allow the County to respond to changes in climate, population, and growth. It also shows a commitment to improving the lives of County residents, businesses, and visitors now and in the future. When considering updating existing code to integrate additional or new hazard mitigation planning, consider the following implementation steps: 1. Identify the codes in effect in your community 2. Build a team (consider utilizing the HMPC as a starting point and expanding as needed). 3. Create a shared strategy for reducing disaster risk. 4. Map out the process for building code adoption.

Project 1: Review Codes for Hazard Mitigation Integration Opportunities	
	5. Build the case for integrating hazard mitigation into modern building code adoption. 6. Advocate. 7. Draft the code. 8. Adopt the code without weakening amendments. 9. Enforce the code **WHAT IS A "WEAKENED" CODE?** A weakened code occurs when a state or community adopts the latest code, but then passes amendments that remove certain requirements. Finally, adopting hazard mitigation principles into modern codes is not enough to protect communities and save money prior to hazard events. To be effective, codes must be enforced. Local planners, emergency managers, and code enforcement officials collaborate directly with residents and are often their primary contact with government. Their roles are critical for educating the public about stronger codes and standards. Working with residents in code enforcement means: • Making a complex system easier to understand: When people are closer to the problems and solutions, we expect to see better results in community development. • Increased support for codes and standards: Shared ownership and buy-in is achieved when residents affected by the policies engage in decision making.
Responsible Entity:	Jefferson County Department of Engineering, Planning, and Zoning Jefferson County Office Of Homeland Security And Emergency Management
Partners:	Jefferson County Finance Department Municipal Representatives County Commission Office
Cost Estimate:	Staff Time
Potential Funding:	Annual Operating Budget
Benefits (Losses Avoided):	• Deconflicts legislation with current County protocols • Supports projects aligned with plans and funding. • Supports efforts to make the County more resilient to natural hazards by codifying hazard mitigation principles.
Ideas for Integration:	• Code of Ordinances • Building Codes • Comprehensive Plan • Capital Improvement Plan
Timeline:	Ongoing

Following your review of Project 1, please complete the following six (6) questions.

1. Do you think there would be community acceptance/general support for this mitigation project?
   Yes ◯ No ◯ Unsure ◯
2. Do you think implementation of this mitigation project will enhance the health and safety of the community?
   Yes ◯ No ◯ Unsure ◯
3. Do you think the County will be able to sufficiently staff and/or provide technical support to implement this mitigation project?
   Yes ◯ No ◯ Unsure ◯
4. Do you think the benefits of this mitigation project will exceed the likely costs?
   Yes ◯ No ◯ Unsure ◯
5. Do you think the maintenance requirements for this option will be affordable and not provide an undue burden on the County?
   Yes ◯ No ◯ Unsure ◯
6. Is this project consistent with environmental goals?
   Yes ◯ No ◯ Unsure ◯

Please provide any comments or modifications, if applicable.

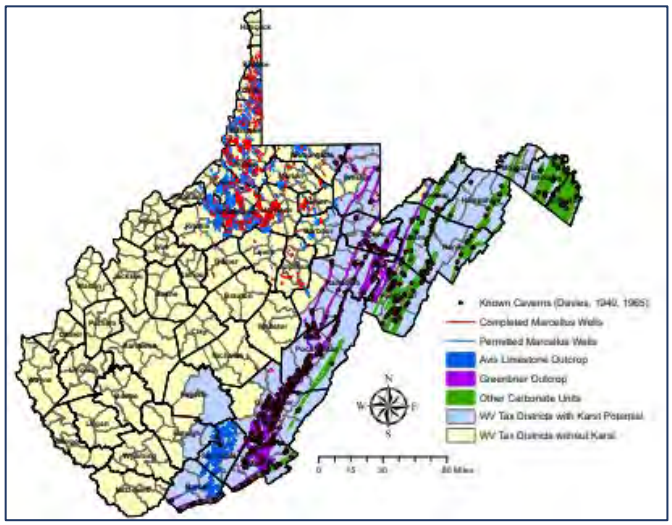
Project 2: Extreme Heat Emergency Plan	
Action Item(s):	**LPR 14:** Develop an Extreme Heat Emergency Plan identifying triggers, surveillance, and actions.
Project Title:	**Extreme Heat Emergency Plan**
Hazard(s):	Extreme Temperature
Location(s):	County & Municipalities
Project Discussion:	According to CDC Climate and Health Technical Report Series, extreme heat is a major public health concern in the United States. Temperatures are increasing across the country, with more frequent and severe heat waves in many regions. This trend is projected to continue. Exposure to heat may increase the risk of illness particularly among sensitive groups such as people who do not have access to air conditioning, older adults, young children, people working outdoors, athletes, the socially isolated, people with existing chronic conditions, and some communities of color. Extreme temperature events can pose a threat to the entire Jefferson County's population. Therefore, an Extreme Heat Emergency Plan should be developed for the county and its municipalities. An extreme heat emergency plan is a coordinated plan that describes and organizes activities to prevent heat-related morbidity and mortality. Potential components of an extreme heat emergency plan: • Overview of the anticipated impacts of extreme heat • Description of thresholds for activation • Identification of at-risk populations and geographies within the jurisdiction • Relevant local community considerations • Identification of preparedness, response, and recovery actions and partnerships necessary to mitigate adverse health consequences • Delineated roles and responsibilities, including how agency efforts will be coordinated with other partners and stakeholders • Evaluation and revision processes Additional elements of the plan to consider: • Implement a countywide public health monitoring system to identify heat illness events early, monitor trends, and track illnesses to intervene and prevent further harm. • Accelerate readiness and protection of communities most impacted by extreme heat, including through cooling schools and homes, supporting community resilience centers, and expanding nature-based solutions. • Protect vulnerable populations through codes, standards, and regulations. • Expand economic opportunity and build a climate smart workforce that can operate under and address extreme heat. • Increase public awareness to reduce risks posed by extreme heat. • Protect natural and working lands, ecosystems, and biodiversity from the impacts of extreme heat.
Responsible Entity:	Jefferson County Health Department Jefferson County Office Of Homeland Security And Emergency Management
Partners:	American Red Cross

Project 2: Extreme Heat Emergency Plan	
	Jefferson County Emergency Medical Services Hospitals and Healthcare Coalitions Jefferson County Board of Education Faith-Based Organizations Local Businesses
Cost Estimate:	Staff Time
Potential Funding:	Annual Operating Budget
Benefits (Losses Avoided):	Prevents loss of life and illness.
Ideas for Integration:	Hazard Mitigation Plan Emergency Operations Plan
Timeline:	1-2 years

Following your review of Project 2, please complete the following six (6).

1. Do you think there would be community acceptance/general support for this mitigation project?
   Yes ◯ No ◯ Unsure ◯
2. Do you think implementation of this mitigation project will enhance the health and safety of the community?
   Yes ◯ No ◯ Unsure ◯
3. Do you think the County will be able to sufficiently staff and/or provide technical support to implement this mitigation project?
   Yes ◯ No ◯ Unsure ◯
4. Do you think the benefits of this mitigation project will exceed the likely costs?
   Yes ◯ No ◯ Unsure ◯
5. Do you think the maintenance requirements for this option will be affordable and not provide an undue burden on the County?
   Yes ◯ No ◯ Unsure ◯
6. Is this project consistent with environmental goals?
   Yes ◯ No ◯ Unsure ◯

Please provide any comments or modifications, if applicable.

Project 3: Karst Mitigation Plan	
Action Item(s):	**LPR 16:** Establish best practices and recommendations for karst areas, including land use, resiliency, and infrastructure. **LPR 17:** Adjust construction regulations to include areas where mapped and verified karst terrain exists, double layers of silt fencing may be implemented, as well as hay bales or core logs along the periphery of the standard workspace area to prevent outward migration of silt and reduce runoff velocity.
Project Title:	**Karst Mitigation Plan**
Hazard(s):	Karst
Location(s):	Countywide & Municipalities
Project Discussion:	According to USGS, karst terrain is created from the dissolution of soluble rocks, principally limestone and dolomite. Karst areas are characterized by distinctive landforms and a unique hydrogeology that results in aquifers that are highly productive but extremely vulnerable to contamination. A karst landscape is characterized by the presence of sinkholes, springs, caves, ridges and sharp projections in the underlying bedrock, and highly irregular soil-rock interface.  *Source: Developing a Karst Map for West Virginia* According to the Jefferson County Foundation, Inc: Rezoning for Jefferson County Foundation, Inc. Heavy Industry fact sheet, the Jefferson Orchard site, and much of the surrounding land in Jefferson County, should not be rezoned for heavy industry, or any industry that produces toxic or hazardous emissions. It has been well defined that this portion of Jefferson County has mature karst hydrogeology. The karst landscape is a consequence of the presence of soluble bedrock, which consists of limestone in the case of Jefferson County. According to Conservation West Virginia, one of the chief complaints of the opponents of the Rockwool industrial development is that groundwater pollution from its operations can easily pollute drinking water sources for a large number of residents.

Project 3: Karst Mitigation Plan	
	A Karst Mitigation Plan addresses potential impacts and hazards related to local karst formations. Jefferson County Department of Engineering, Planning, and Zoning should collaborate with the partners mentioned below to develop the plan for Jefferson County.
Responsible Entity:	Jefferson County Department of Engineering, Planning, and Zoning
Partners:	Jefferson County Foundation, Inc. West Virginia Geological and Economic Survey Conservation West Virginia Geotechnical Engineer State of West Virginia, Department of Environmental Protection (DEP) Jefferson County Office Of Homeland Security And Emergency Management
Cost Estimate:	Staff Time
Potential Funding:	Annual Operating Budget
Benefits (Losses Avoided):	Prevention of loss and life
Ideas for Integration:	Hazard Mitigation Plan Emergency Operations Plan Comprehensive Plan
Timeline:	1-2 years

Following your review of Project 3, please complete the following six (6) questions.

1. Do you think there would be community acceptance/general support for this mitigation project?
   Yes ◯ No ◯ Unsure ◯

2. Do you think implementation of this mitigation project will enhance the health and safety of the community?
   Yes ◯ No ◯ Unsure ◯

3. Do you think the County will be able to sufficiently staff and/or provide technical support to implement this mitigation project?
   Yes ◯ No ◯ Unsure ◯

4. Do you think the benefits of this mitigation project will exceed the likely costs?
   Yes ◯ No ◯ Unsure ◯

5. Do you think the maintenance requirements for this option will be affordable and not provide an undue burden on the County?
   Yes ◯ No ◯ Unsure ◯

6. Is this project consistent with environmental goals?
   Yes ◯ No ◯ Unsure ◯

Please provide any comments or modifications, if applicable.

Project 4: Snow Removal MOU and Debris Management Plan	
Action Item(s):	**SIP #1:** Coordinate with local private contractors to develop mutual aid agreements for emergency snow removal, also develop a Debris Management Plan that can be implemented following a disaster occurrence.
Project Title:	**Snow Removal MOU and Debris Management Plan**
Hazard(s):	Flood Landslide, Land Subsidence, Severe Wind & Tornado, Severe Winter Storm, Thunderstorm
Location(s):	Countywide & Municipalities
Project Discussion:	Memorandum of Understandings (MOUs) must be put in place prior to any emergency. The purpose of a MOU is to facilitate coordination and collaboration between local private contractors to develop mutual aid agreements which would minimize weather-related disruption to public safety and business throughout the county. A debris management plan establishes a framework for which the County will respond and coordinate the management and removal of debris generated by potential human-caused and natural disasters, such as extreme high wind and/or thunderstorm events. The plan also may address the potential role that state and federal agencies and other groups may assume during a debris management operation. "Guidance about Planning for Natural Disaster Debris" is available on the EPA's website; they also have several publications aimed at helping communities update their present debris management plan to address environmental issues. FEMA also offers guidance in the form of their "Public Assistance Debris Monitoring Guide" which provides guidance on monitoring debris removal operations and eligibility requirements associated with necessary work and reasonable costs to carry out a debris monitoring program.
Responsible Entity:	Jefferson County Office Of Homeland Security And Emergency Management Jefferson County Roads Department Jefferson County Solid Waste Authority Private Contractors
Partners:	Jefferson County Department of Fleet & Facilities Management Utilities Contractors West Virginia Division of Highways Landfills/Preapproved Disposal Sites
Cost Estimate:	Snow Removal MOU – Based on contract agreement with contractors. Debris Management Plan – Staff Time/Annual Operating Budget
Potential Funding:	FEMA Hazard Mitigation Grant Program (HMGP) FEMA Building Resilient Infrastructure and Communities (BRIC)
Benefits (Losses Avoided):	• Safe movement within the county for emergency responders, law enforcement, and residents. Pathway back to normalcy. • A debris management plan serves to guide responsible agencies to better protect human health, comply with regulations, conserve disposal capacity, reduce injuries, and minimize or prevent environmental impacts after a hazard event that produces debris.
Ideas for Integration:	• Tabletop Exercise/Round Table with all partners regarding debris and debris

Project 4: Snow Removal MOU and Debris Management Plan	
	management. • Secure annual contracts with vendors to support Debris Management efforts in Jefferson County.
Timeline:	Snow Removal MOU – Less than 90 days; Ongoing Debris Management Plan – 1-2 years (planning process).

Following your review of Project 4, please complete the following six (6) questions.

1. Do you think there would be community acceptance/general support for this mitigation project?
   Yes ◯ No ◯ Unsure ◯
2. Do you think implementation of this mitigation project will enhance the health and safety of the community?
   Yes ◯ No ◯ Unsure ◯
3. Do you think the County will be able to sufficiently staff and/or provide technical support to implement this mitigation project?
   Yes ◯ No ◯ Unsure ◯
4. Do you think the benefits of this mitigation project will exceed the likely costs?
   Yes ◯ No ◯ Unsure ◯
5. Do you think the maintenance requirements for this option will be affordable and not provide an undue burden on the County?
   Yes ◯ No ◯ Unsure ◯
6. Is this project consistent with environmental goals?
   Yes ◯ No ◯ Unsure ◯

Please provide any comments or modifications, if applicable.

Project 5: Dark Grid Training & Exercises	
Action Item(s):	**SIP #7:** Conduct "Dark Grid" training and exercises. Emergency management officials can reduce vulnerability to utility interruption through training and exercises, such as the “Dark Grid” exercise, which prepare emergency responders and community leaders for a coordinated response to widespread utility interruptions.
Project Title:	**Dark Grid Training & Exercises**
Hazard(s):	Utility Interruptions
Location(s):	Countywide & Municipalities
Project Discussion:	Significant power outages will have severe effects on public utilities, communication networks, emergency response centers, hospitals, government offices, and a large section of private sector; gasoline and groceries, etc. By simulating a Power Outage scenario and testing the capabilities that are related to the management of this threat we can better prepare community leaders and emergency responders for an optimal coordinated response to widespread utility interruptions. Jefferson County Office Of Homeland Security And Emergency Management should conduct a tabletop exercise initially for power outages. Once the TTX is completed, JCHSEM should plan a “Dark Grid” full scale exercise in order to prepare emergency responders and community leaders for a coordinated response to widespread utility interruptions.
Responsible Entity:	Jefferson County Office Of Homeland Security And Emergency Management
Partners:	Local government, utility owners, emergency response, hospitals, law enforcement
Cost Estimate:	Staff Time
Potential Funding:	Annual Operating Budget Upgrading Our Electric Grid and Ensuring Reliability and Resiliency
Benefits (Losses Avoided):	Enhanced capacity to respond to and recover from a power outage.
Ideas for Integration:	Emergency Operations Plan
Timeline:	1-2 years

Following your review of Project 5, please complete the following six (6) questions.

1. Do you think there would be community acceptance/general support for this mitigation project?
   Yes ◯ No ◯ Unsure ◯

2. Do you think implementation of this mitigation project will enhance the health and safety of the community?
   Yes ◯ No ◯ Unsure ◯

3. Do you think the County will be able to sufficiently staff and/or provide technical support to implement this mitigation project?
   Yes ◯ No ◯ Unsure ◯

4. Do you think the benefits of this mitigation project will exceed the likely costs?
   Yes ◯ No ◯ Unsure ◯

5. Do you think the maintenance requirements for this option will be affordable and not provide an undue burden on the County?
   Yes ◯ No ◯ Unsure ◯

6. Is this project consistent with environmental goals?
   Yes ◯ No ◯ Unsure ◯

Please provide any comments or modifications, if applicable.

Project 6: County Cyber Security	
Action Item(s):	**SIP #11:** Establish a County Cyber Security and Risk Mitigation Plan to be implemented by county and five jurisdictions. **SIP #13:** Provide annual cyber-security and awareness training to all County staff to reduce risk and occurrence of phishing and malware attacks.
Project Title:	**County Cyber Security**
Hazard(s):	Cyber Terrorism
Location(s):	Countywide & Municipalities
Project Discussion:	A cybersecurity threat mitigation strategy reduces the overall risk or impact of a cybersecurity incident by employing security policies and procedures. Preventing an attack from occurring before it can happen is imperative to public security. There are three components to cyber security risk mitigation: prevention, detection, and remediation. Before starting a risk mitigation strategy, a risk assessment should be conducted. A risk assessment is meant to find gaps within the infrastructure that is most vulnerable to exploitation before an attack. Prioritizing regular risk assessments ensures timely detection and resolution of potential weaknesses that could otherwise be exploited by outside attacks. The next step to prevention is to establish network controls to mitigate the risk of insider threats. A system of 'zero trust' is the most viable to prevent the risk of insider threats. 'Zero trust' assesses trust and user access permissions on an as needed basis depending on each person's job role. Another means of minimizing threats to security is through proactive action. Continuously monitoring network traffic by using tools that provide a comprehensive picture of an IT ecosystem at any time allows security personnel the ability to identify and deal with threats as they happen. Lastly, an incident response plan can be put in place to allow all portions of security and non-tech staff to understand what to do in the event of a data breach or attack. It has become increasingly difficult with the evolution of technology to prevent data breaches, so an incident response plan allows us to be proactively prepared. Using the Risk Mitigation Plan, annual cyber-security and awareness training should be conducted with county staff and municipal staff.
Responsible Entity:	Jefferson County Office of Information Technology
Partners:	All County Departments and Municipalities
Cost Estimate:	Staff Time
Potential Funding:	Annual Operating Budget Cyber Response and Recovery Fund
Benefits (Losses Avoided):	• Ensures public security, safety of sensitive data, functionality of government facilities and county resources. • Avoids electrical blackouts, failure of government equipment, breaches of security and confidential information, disruption of communication networks
Ideas for Integration:	Creating a plan to mitigate and improve the response to potential cyber threats.
Timeline:	Ongoing

Following your review of Project 6, please complete the following six (6) questions.

1. Do you think there would be community acceptance/general support for this mitigation project?
   Yes ◯ No ◯ Unsure ◯

2. Do you think implementation of this mitigation project will enhance the health and safety of the community?
   Yes ◯ No ◯ Unsure ◯

3. Do you think the County will be able to sufficiently staff and/or provide technical support to implement this mitigation project?
   Yes ◯ No ◯ Unsure ◯

4. Do you think the benefits of this mitigation project will exceed the likely costs?
   Yes ◯ No ◯ Unsure ◯

5. Do you think the maintenance requirements for this option will be affordable and not provide an undue burden on the County?
   Yes ◯ No ◯ Unsure ◯

6. Is this project consistent with environmental goals?
   Yes ◯ No ◯ Unsure ◯

Please provide any comments or modifications, if applicable.

Project 7: Green Infrastructure Plan	
Action Item(s):	**NSP #1:** Review and update plans regarding stream and river setbacks and require riparian buffers of at least 35-50 feet with tree planting. **NSP #2:** Consider planting various types of vegetation in landslide prone areas to increase soil stability through root length and strength and by absorbing precipitation. **NSP #3:** Stormwater BMP Project Assessment – County and Municipal Owned Critical Facilities. 1. Assess county and municipal-owned critical facilities and verify aerial observations related to suitability/space for stormwater BMP projects and lessening impervious surfaces at these locations. 2. Reduce the urban heat island effect, beginning with county and municipal-owned properties. **NSP #4:** Complete a Green Infrastructure Plan for Jefferson County. Include identification of areas for bio-retention. **NSP #6:** Coordinate efforts between Region 9 and adjacent counties to identify groundwater recharge areas and sensitive groundwater areas. Work closely with the municipalities to enforce infiltration and groundwater recharge requirements in these areas to reduce the impacts of drought.
Project Title:	**Green Infrastructure Plan**
Hazard(s):	Flood, Landslide, Extreme Heat, Thunderstorm, Drought
Location(s):	Countywide & Municipalities
Project Discussion:	In regard to stream and river setbacks, the current Jefferson County Zoning and Land Development Ordinance states: • *All development adjacent to a Sensitive Natural Area shall have a buffer of natural vegetation. The buffer shall meet the current Federal standard except as required.* • *Any development, other than residential development, which takes place after the adoption of this Ordinance must maintain a five hundred (500) foot buffer strip from the existing banks of the Potomac and Shenandoah Rivers.* The ordinance could be modified to state that a 35-50 feet riparian buffer be required along all waterways. A riparian buffer is a natural strip of vegetation next to a stream or a creek that protects it from pollution. A riparian buffer also helps protect sources of drinking water. In addition, a riparian buffer utilized within landslide prone areas can serve to prevent soil instability. Trees such as red bud, service berry and many of the fruit bearing trees are appropriate for riparian areas as well as a variety of shrubs such as silky dogwood, red osier dogwood, meadowsweet, and black haw viburnum. Both of which would work to anchor soils and protect waterways. Stormwater management reduces or eliminates the negative impacts of stormwater runoff. Today, stormwater management includes controlling flooding, reducing erosion, and improving water quality. This can be accomplished by implementing what are known as Best Management Practices (BMPs). BMPs are structural, vegetative, or managerial practices used to treat, prevent, or reduce water pollution. As part of the Plan Update, critical facilities were assessed for vulnerability and

Project 7: Green Infrastructure Plan	
	capabilities. The listing of these facilities are included in Appendix F. The initial step in the analysis is to examine critical facility parcels using satellite imagery to determine if the parcel has room for stormwater BMP projects such as planting projects and mitigating impervious surface projects. The next step in this process would be to verify these initial observations and determine if potential projects would be feasible at the recommended sites. An in-person assessment of each city-owned facility location would help determine site-specific suitability for these types of projects. If a site is determined to have space and be suitable for stormwater BMPs such as planting projects and mitigation of impervious surfaces, then some considerations are as follows: • What is the impact that these projects would have on current conditions at the site? And do the benefits outweigh the costs? • What level of coordination is possible with existing community groups for proposed planting projects? Additionally, planting projects, particularly tree planting projects, could help reduce the urban heat island effect. Properties should be examined for: • Increased tree plantings around buildings to shade parking lots and along public rights-of-way. • Encouraging installation of green roofs, which provide shade and remove heat from the roof surface and surrounding air. • When replacing or upgrading roofs at these locations, use cool roofing products that reflect sunlight and heat away from the building. Green infrastructure collects stormwater from streets, sidewalks, and other hard surfaces before it can enter the sewer system or cause local flooding. By reducing the amount of stormwater that flows into the sewer system, green infrastructure helps prevent sewer overflows and improves the health of local waterways. Natural groundwater recharge occurs as precipitation falls on the land surface, infiltrates into soils, and moves through pore spaces down to the water table. Natural recharge also can occur as surface-water leakage from rivers, streams, lakes, and wetlands. Widespread development has created a critical need to plan for and regulate possible environmental impacts. A green infrastructure plan is a strategically planned network of natural and semi-natural areas with other environmental features, designed and managed to deliver a wide range of ecosystem services, while also enhancing biodiversity. Incorporating all the elements above into the green infrastructure plan would assist in accomplishing the actions listed above.
Responsible Entity:	Jefferson County Department Of Engineering, Planning, And Zoning Jefferson County Department of Public Works Jefferson County Parks & Recreation
Partners:	West Virginia Rivers Coalition Conservations Districts United States Geological Survey (USGS) United States Department of Agriculture (USDA)

Project 7: Green Infrastructure Plan	
	Department of Natural Resources (DNR) Development Authority WVU Extension Shepherd University Developers Utility Companies
Cost Estimate:	Staff Time/Annual Budget for all actions Impervious surfaces mitigation projects: location and size dependent. Tree planting projects: the average cost of tree planting is $300 but can vary depending upon the type and location. Green roof cost: national average cost is between $15 and $50 per square foot. Green Infrastructure Planning Grant - $30,000-50,000
Potential Funding:	Stormwater BMP Project Assessment - FEMA Hazard Mitigation Grant Program (Flood Risk Reduction), Building Resilient Infrastructure and Communities (BRIC) Community Block Development Grant (CDBG) Green Infrastructure Plan - US Environmental Protection Agency's Section 319 Nonpoint Source Program 12 and the Urban Waters Small Grants Program (UWSG) National Estuary Program Grants
Benefits (Losses Avoided):	• Addresses the impacts of extreme heat • Filter stormwater • Mitigate summer air temperatures • Increase planting reduce harmful pollutants • Greener spaces have physical and mental health benefits to residents • Maintenance shortfalls for BMPs
Ideas for Integration:	• MS4 Reporting • Tree mitigation issues • Current tree canopy goals • Comprehensive Plan – County and Municipal
Timeline:	1 year – Initial Planning Phase 2-3 years – Final Plan & Implementation

Following your review of Project 7, please complete the following six (6) questions.

1. Do you think there would be community acceptance/general support for this mitigation project?
   Yes ◯ No ◯ Unsure ◯

2. Do you think implementation of this mitigation project will enhance the health and safety of the community?
   Yes ◯ No ◯ Unsure ◯

3. Do you think the County will be able to sufficiently staff and/or provide technical support to implement this mitigation project?
   Yes ◯ No ◯ Unsure ◯

4. Do you think the benefits of this mitigation project will exceed the likely costs?
   Yes ◯ No ◯ Unsure ◯

5. Do you think the maintenance requirements for this option will be affordable and not provide an undue burden on the County?
   Yes ◯ No ◯ Unsure ◯

6. Is this project consistent with environmental goals?
   Yes ◯ No ◯ Unsure ◯

Please provide any comments or modifications, if applicable.

Project 8: Invasive Species Detection & Eradication	
Action Item(s):	**NSP #5:** Coordinate with USDA Animal and Plant Health Inspection Service (APHIS), and other professional agricultural agencies to create early detection and a prompt eradication program.
Project Title:	**Invasive Species Detection & Eradication**
Hazard(s):	Invasive Species
Location(s):	County & Municipalities
Project Discussion:	According to USDA APHIS, nonnative species that cause harm are collectively known as invasive species. Human activity such as trade, travel and tourism have all increased substantially, increasing the speed and volume of species movement to unprecedented levels. Invasive species are often unintended hitchhikers on cargo and vehicles. Still more species are deliberately introduced as pets, ornamental plants, crops, food, or for recreation, pest control or other purposes. USDA's National Invasive Species Information Center has developed the Early Detection and Rapid Response (EDRR). The EDRR is a coordinated set of actions to find and eradicate new and emerging invasive species in a specific location before they can spread and cause harm. By researching and mapping trends in the migration of invasive and native species, practices, and regulations to prevent invasive species while supporting native species can be developed. Early detection is one of the most cost-effective and ecologically viable methods for controlling invasive species. Early interventions are more likely to be successful, while long-term management typically have higher association costs. The USDA's Reporting website provides information and resources for how and where to report suspected invasive species. The USDA's Take Action Against Invasive Species also provides information on how citizens can help to prevent and control invasive species.
Responsible Entity:	Jefferson County Department Of Engineering, Planning, And Zoning
Partners:	WVU Extension Shepherd University USDA DNR Conservation Districts Farmland Protection Board
Cost Estimate:	Staff Time
Potential Funding:	Annual Operating Budget National Estuary Program Grants
Benefits (Losses Avoided):	Biodiversity and ecosystem benefits.
Ideas for Integration:	List animals to monitor and map (background research); find a PHD student to lead
Timeline:	Ongoing

Following your review of Project 8, please complete the following six (6) questions.

1. Do you think there would be community acceptance/general support for this mitigation project?
   Yes ◯ No ◯ Unsure ◯
2. Do you think implementation of this mitigation project will enhance the health and safety of the community?
   Yes ◯ No ◯ Unsure ◯
3. Do you think the County will be able to sufficiently staff and/or provide technical support to implement this mitigation project?
   Yes ◯ No ◯ Unsure ◯
4. Do you think the benefits of this mitigation project will exceed the likely costs?
   Yes ◯ No ◯ Unsure ◯
5. Do you think the maintenance requirements for this option will be affordable and not provide an undue burden on the County?
   Yes ◯ No ◯ Unsure ◯
6. Is this project consistent with environmental goals?
   Yes ◯ No ◯ Unsure ◯

Please provide any comments or modifications, if applicable.

Project 9: National Flood Insurance Program	
Action Item(s):	**EPA #7:** Educate the public on the benefits of purchasing flood insurance and increase flood insurance users in Jefferson County. Create displays for use at public events (health fair, public awareness day, and county fair). This display would include pictures and information, such as that contained in FEMA's Retrofitting for Homeowners Guide, Elevating Your Flood Prone Home, Elevating Residential Structures, and information on the NFIP. **EPA #14:** Encourage the purchase of flood insurance. Specifically targeting properties outside of the mapped 1-percent annual chance flood zone also known as the Special Flood Hazard Area (SFHA). Use messaging centered on climate change and resulting flooding that is occurring outside of the SFHA.
Project Title:	**National Flood Insurance Program**
Hazard(s):	Flooding
Location(s):	Areas prone to flooding within the County.
Project Discussion:	The National Flood Insurance Program (NFIP) is a FEMA managed program delivered to the public by a network of more than fifty insurance companies and NFIP Direct. The program is built to provide insurance in an effort to help reduce the socio-economic impact of floods. When just one inch of water in a home can cost more than $25,000 in damage, flood insurance can be the difference between recovery and financial devastation. As of April 1, 2023, FEMA has fully implemented the National Flood Insurance Program's (NFIP) pricing methodology called Risk Rating 2.0. The methodology leverages industry best practices and innovative technology to enable FEMA to deliver rates that are actuarily sound, equitable, easier to understand and better reflect a property's flood risk. A major part of FEMA's NFIP transformation is Risk Rating 2.0, which fundamentally changes the way FEMA prices insurance and determines an individual property's flood risk. Risk Rating 2.0 focuses on equity in action, with individuals no longer paying more than their share in flood insurance premiums based on the value of their homes. An estimated two-thirds of policyholders with older pre-FIRM homes will see a premium decrease. With Risk Rating 2.0, FEMA now has the capability and tools to address rating disparities by incorporating more flood risk variables. These include flood frequency, multiple flood types—river overflow, storm surge, coastal erosion, and heavy rainfall and distance to a water source along with property characteristics such as elevation and the cost to rebuild. Under the old rating methodology policy holders had seen an average annual increase of just over 11% or $8 per month. If Risk Rating 2.0 is not implemented, 100% of NFIP policyholders will continue to see rate increases year after year. Premiums are ultimately driven by variables that an individual policyholder can control. Upon receipt of a premium, a policyholder can change the parameters (such as the level of coverage limits, deductibles, and other additional data or take a mitigation action) that impact their property's unique rate.

Project 9: National Flood Insurance Program	
	Review the Risk Rating 2.0 State Profiles interactive map: Risk Rating 2.0: Projected Premium Changes by Zip Code - All NFIP Policies to view projected premium changes for all NFIP policyholders by zip code. The data in this dashboard are FEMA's analysis of NFIP policyholder data. The analysis considers only the differences between May 2020 premiums (based on the old rating system) and October 2021 premiums (Risk Rating 2.0); the analysis does not consider typical premium increases that might have occurred without Risk Rating 2.0. The projected premium changes displayed in the interactive map could be used to illustrate the policy savings from using Risk Rating 2.0. In addition, FEMA's Discount Explanation Guide and Rate Explanation Guide could be reviewed with policy holders. Also Risk Rating 2.0: Equity in Action is available for agents and provides answers to frequently asked questions and shareable marketing resources to help clients understand their property's unique flood risk. Partner with FEMA Region 3 and local Insurance Agencies to hold a workshop to discuss Risk 2.0, zip code level data on flood insurance policies, and mitigation practices which reduce risk and insurance rates.
Responsible Entity:	Jefferson County Office of Planning & Zoning Certified Floodplain Manager
Partners:	FEMA Region 3 Insurance Agencies Jefferson County Office Of Homeland Security And Emergency Management
Cost Estimate:	Dependent on the method of outreach, training opportunities, and the type of workshops conducted to discuss Risk Rating 2.0.
Potential Funding:	Homeland Security Grants FEMA Building Resilient Infrastructure and Communities (BRIC) Flood Mitigation Assistance Grant Program (FMA)
Benefits (Losses Avoided):	• Increases and helps to retain the amount of flood insurance policyholders in the County • Increases resilience to flood and coastal hazards • Outreach activities can increase the County's CRS rating, which in turn lowers premiums.
Ideas for Integration:	• Collaborate education and outreach efforts with local and regional conferences, including for topics such as stormwater management and realtors/flood insurance. • Planning documents
Timeline:	Ongoing

Following your review of Project 9, please complete the following six (6) questions.

1. Do you think there would be community acceptance/general support for this mitigation project?
   Yes ◯ No ◯ Unsure ◯

2. Do you think implementation of this mitigation project will enhance the health and safety of the community?
   Yes ◯ No ◯ Unsure ◯

3. Do you think the County will be able to sufficiently staff and/or provide technical support to implement this mitigation project?
   Yes ◯ No ◯ Unsure ◯

4. Do you think the benefits of this mitigation project will exceed the likely costs?
   Yes ◯ No ◯ Unsure ◯

5. Do you think the maintenance requirements for this option will be affordable and not provide an undue burden on the County?
   Yes ◯ No ◯ Unsure ◯

6. Is this project consistent with environmental goals?
   Yes ◯ No ◯ Unsure ◯

Please provide any comments or modifications, if applicable.

Project 10: Generator Safety Tips	
Action Item(s):	**EPA #17:** Educate the public on proper use of generators during a power outage. Carbon monoxide poisoning can be a major issue if generators, kerosene heaters, and propane heaters are used inappropriately.
Project Title:	**Generator Safety Tips**
Hazard(s):	Utility Interruptions
Location(s):	Countywide & Municipalities
Project Discussion:	Power outages can be expected at any time of year, on a nearly monthly basis. Iced power lines; falling tree limbs due to ice, wind, or lightning strikes; and vehicle incidents damaging power lines, or their support poles can all be reasons for power outages. OSHA's Fact Sheet about portable generators states the following hazards are associated with generators: • Shocks and electrocution from improper use of power or accidentally energizing other electrical systems. • Carbon monoxide from a generator's exhaust. • Fires from improperly refueling a generator or inappropriately storing the fuel for a generator. • Noise and vibration hazards. The American Red Cross provides information on How to Choose a Generator, Using a Generator at Home, and How to Prevent Carbon Monoxide (CO) Poisoning When Using a Generator. For public awareness, fire departments could provide this information on flyers or post on social media. Generator safety tips such as those provided by American Red Cross's Safe Generator Use webpage could be disseminated as well.
Responsible Entity:	Fire Departments Public Relations/Public Information Officer
Partners:	Jefferson County Office Of Homeland Security And Emergency Management
Cost Estimate:	Staff Time Material Cost Advertisement Cost
Potential Funding:	Annual Operating Budget
Benefits (Losses Avoided):	To keep operations running and maintain continuity within organizations. Educating the public on generator safety helps prevent property damage and loss of life.
Ideas for Integration:	Fire Department Outreach Public Announcement Advertisements
Timeline:	Ongoing

Following your review of Project 10, please complete the following six (6) questions.

1. Do you think there would be community acceptance/general support for this mitigation project?
   Yes ◯ No ◯ Unsure ◯

2. Do you think implementation of this mitigation project will enhance the health and safety of the community?
   Yes ◯ No ◯ Unsure ◯

3. Do you think the County will be able to sufficiently staff and/or provide technical support to implement this mitigation project?
   Yes ◯ No ◯ Unsure ◯

4. Do you think the benefits of this mitigation project will exceed the likely costs?
   Yes ◯ No ◯ Unsure ◯

5. Do you think the maintenance requirements for this option will be affordable and not provide an undue burden on the County?
   Yes ◯ No ◯ Unsure ◯

6. Is this project consistent with environmental goals?
   Yes ◯ No ◯ Unsure ◯

Please provide any comments or modifications, if applicable.

Project 11: Cyber Preparedness	
Action Item(s):	**EPA #22:** Increase awareness of cyber threats and continue to provide public/private sector cyber security outreach.
Project Title:	**Cyber Preparedness**
Hazard(s):	Cyber Terrorism
Location(s):	Countywide & Municipalities
Project Discussion:	Similar to traditional response to a natural disaster, communities must also be ready to respond to a "cyber disaster" as a cyber-attack can trigger physical consequences. These physical consequences could result in significant impacts to governments, businesses, and individuals. Cyber terrorism is the convergence of cyberspace and terrorism. It refers to unlawful attacks and threats of attacks against computerized systems, networks, and the information stored within. Cyber terrorism is done to intimidate or coerce a government or its people to further political or social objectives. It is important to be prepared for such attacks and to have the best possible preventative security measures in place. To know what to look for by studying prior history of bordering counties that have dealt with such attacks is a good start. Knowing what can be done in order to prevent the possibility of a breach in cyber security through reviewing past events, surveying, and assessing our current capabilities is key to mitigating potential future attacks. Putting a plan of action in place with this in mind helps keep servers secure and out of reach to those that mean harm. FEMA's Be Prepared For A Cyberattack fact sheet could be distributed to inform the public and private section ways to prevent a cyberattack, how to limit damage during an attack, and how to file a report after an attack. Furthermore, FEMA's Preparedness Community provides additional information on cyberattacks including protective actions. The link to FEMA Preparedness Community: Cyberattack could be disseminated with the fact sheet.
Responsible Entity:	Jefferson County Office of Information Technology
Partners:	Jefferson County Office Of Homeland Security And Emergency Management
Cost Estimate:	Staff Time Material Cost Advertisement Cost
Potential Funding:	Annual Operating Budget State and Local Cybersecurity Grant Program (SLCGP) Cyber Response and Recovery Fund
Benefits (Losses Avoided):	To avoid loss of data, control, and other IT services.
Ideas for Integration:	Communications between agencies and quarterly meetings amongst different agencies.
Timeline:	Ongoing

Following your review of Project 11, please complete the following six (6) questions.

1. Do you think there would be community acceptance/general support for this mitigation project?
   Yes ◯ No ◯ Unsure ◯

2. Do you think implementation of this mitigation project will enhance the health and safety of the community?
   Yes ◯ No ◯ Unsure ◯

3. Do you think the County will be able to sufficiently staff and/or provide technical support to implement this mitigation project?
   Yes ◯ No ◯ Unsure ◯

4. Do you think the benefits of this mitigation project will exceed the likely costs?
   Yes ◯ No ◯ Unsure ◯

5. Do you think the maintenance requirements for this option will be affordable and not provide an undue burden on the County?
   Yes ◯ No ◯ Unsure ◯

6. Is this project consistent with environmental goals?
   Yes ◯ No ◯ Unsure ◯

Please provide any comments or modifications, if applicable.

Project 12: Optimus Prime Power	
Action Item(s):	**ES/PH #1:** Conduct back-up power surveys for all critical infrastructure and an assessment of applicability of renewable energy sources as a potential backup power supply. **ES/PH #5:** Pre-wire critical facilities for generators and provide backup generators for all critical facilities including fire departments, water/wastewater treatment plants, and designated shelters that do not yet have them.
Project Title:	**Optimus Prime Power**
Hazard(s):	All Hazards
Location(s):	Countywide
Project Discussion:	During significant storm events, many small communities are isolated without basic services such as electric, and/or water and sewer services. It is necessary for essential facilities, such as Town Halls or Fire Stations, to have reliable sources of sustained electrical power to achieve continued operations for citizens to seek shelter during these events. For optimal preparedness we can inventory vulnerable communities and inventory existing facilities that could function as resilience centers; example: Town Halls, Fire Stations, or schools. If said facilities are lacking in backup generators, we can provide these assets to keep our critical facilities active in times of need. Also, an annual survey/reminder to facilities for generator maintenance serves to prevent potential issues and maintains quality. The critical facilities listing provided in Appendix F should be assessed to determine which facilities currently have generators. Next a listing of facilities lacking back-up power should be prioritized. All facilities should be reviewed and conclude if pre-wiring is necessary.
Responsible Entity:	Jefferson County Department Of Fleet And Facilities Management Jefferson County Office Of Homeland Security And Emergency Management
Partners:	Electrical Contractors FirstEnergy
Cost Estimate:	$500,000
Potential Funding:	FEMA Building Resilient Infrastructure and Communities (BRIC) FEMA Hazard Mitigation Grant Program (HMGP)
Benefits (Losses Avoided):	Safety, security, health, and wellness of community.
Ideas for Integration:	Facilities Maintenance Plans
Timeline:	Ongoing

Following your review of Project 12, please complete the following six (6) questions.

1. Do you think there would be community acceptance/general support for this mitigation project?
   Yes ◯ No ◯ Unsure ◯

2. Do you think implementation of this mitigation project will enhance the health and safety of the community?
   Yes ◯ No ◯ Unsure ◯

3. Do you think the County will be able to sufficiently staff and/or provide technical support to implement this mitigation project?
   Yes ◯ No ◯ Unsure ◯

4. Do you think the benefits of this mitigation project will exceed the likely costs?
   Yes ◯ No ◯ Unsure ◯

5. Do you think the maintenance requirements for this option will be affordable and not provide an undue burden on the County?
   Yes ◯ No ◯ Unsure ◯

6. Is this project consistent with environmental goals?
   Yes ◯ No ◯ Unsure ◯

Please provide any comments or modifications, if applicable.

Project 13: Citizen Preparedness Training and Outreach	
Action Item(s):	**ES/PH #7:** Teach Community Emergency Response Team (CERT) classes in Jefferson County. Work with municipalities to host classes within their jurisdiction. **ES/PH #8:** Ensure the public is aware of shelter locations in times of need through outreach campaigns that focus on shelter education and develop adequate emergency shelter and evacuation plans for animals (domestic pets, livestock, and wildlife). Establish a committee representative of all areas of the county that will include veterinarians, pet store owners, the Humane Society, animal shelters, the WVU Extension Service and other interested parties to work on animal -specific evacuation and sheltering needs. **ES/PH #16:** Complete specific training to include Naloxone administration, Fit testing for (PPE), a pandemic influenza exercise and an anthrax exercise in the next five years.
Project Title:	**Citizen Preparedness Training and Outreach**
Hazard(s):	All Hazards
Location(s):	Countywide & Municipalities
Project Discussion:	The Community Emergency Response Team (CERT) program educates people about disaster preparedness for hazards that may impact their area and trains citizens in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. By working with municipalities to teach CERT classes within their jurisdictions, this could better prepare the public for hazards that threaten their homes and communities. It is important to establish and communicate to the public an adequate emergency action plan in times of need. This includes emergency shelter and/or evacuation plans for domestic pets, livestock, and wildlife. Appointing a committee representative from interested parties which may include veterinarians, pet store owners, the Humane Society, animal shelters, and the WVU Extension Service, to serve in communicating specific evacuation and sheltering needs. Participants of the CERT program could assist in shelter outreach campaigns. Naloxone is a synthetic drug, similar to morphine, which blocks opiate receptors in the nervous system. By training citizens in the ability to recognize the signs of an opioid overdose and administer the opioid overdose reversal drug naloxone, the casualties caused by the opioid crisis could diminish. Narcan training could be incorporated into the CERT training. Citizens could promote awareness through social media using slogans such as: **Prepare or Die, Narcan or Narcan't.** According to OSHA, fit testing for PPE is to be conducted at a minimum annually to ensure the effectiveness of PPE and the safety of these individuals using said equipment. Proper PPE equipment for healthcare staff delivering patient care in the event of an outbreak such as influenza is extremely important. Training for an influenza and/or anthrax outbreak is vital to public safety as well. Exercises involving public education regarding these outbreaks better prepares us for the potential of such a disaster.

Project 13: Citizen Preparedness Training and Outreach	
Responsible Entity:	Jefferson County Health Department Jefferson County Homeland Security and Emergency Management
Partners:	American Red Cross Local Emergency Planning Committee (LEPC)
Cost Estimate:	< $1,000
Potential Funding:	Hazardous Materials Emergency Planning (HMEP) Grant Program
Benefits (Losses Avoided):	Expanding public knowledge in first aid.
Ideas for Integration:	Pre-identify caregivers or volunteers to partner them with vulnerable populations to ensure vulnerable populations are taken care of before, during, and after emergencies.
Timeline:	Ongoing

Following your review of Project 13, please complete the following six (6) questions.

1. Do you think there would be community acceptance/general support for this mitigation project?
   Yes ◯ No ◯ Unsure ◯

2. Do you think implementation of this mitigation project will enhance the health and safety of the community?
   Yes ◯ No ◯ Unsure ◯

3. Do you think the County will be able to sufficiently staff and/or provide technical support to implement this mitigation project?
   Yes ◯ No ◯ Unsure ◯

4. Do you think the benefits of this mitigation project will exceed the likely costs?
   Yes ◯ No ◯ Unsure ◯

5. Do you think the maintenance requirements for this option will be affordable and not provide an undue burden on the County?
   Yes ◯ No ◯ Unsure ◯

6. Is this project consistent with environmental goals?
   Yes ◯ No ◯ Unsure ◯

Please provide any comments or modifications, if applicable.

Project 14: Hazard Materials Response Plan and Training	
Action Item(s):	**ES/PH #9:** Train personnel and create an in-county hazmat team to reduce the use of out-of-county resources and increase in-county capabilities. **ES/PH #13:** Complete new Hazardous Materials Response Plan.
Project Title:	**Hazard Materials Response Plan and Training**
Hazard(s):	Hazardous Materials Incident
Location(s):	Jefferson County
Project Discussion:	By providing first responders with the training and optimal equipment to manage hazardous materials and dangerous goods we can ensure the health and safety of our workers, workplaces, environments, and overall public health. First responders would have the ability to isolate, identify, and contain incidents before they have the opportunity to become a public health issue. Jefferson County could work with the West Virginia Emergency Management for hazmat training. According to West Virginia Emergency Management, WV DHSEM has entered into an agreement with WVU Fire Service Extension to provide basic and advanced hazardous material courses. In addition to providing our first responders with the necessary tools to properly deal with hazardous materials Jefferson County can implement a Hazardous Materials Emergency Response Plan for optimal preparedness.
Responsible Entity:	Jefferson County Homeland Security and Emergency Management Local Emergency Planning Committee (LEPC)
Partners:	West Virginia Emergency Management West Virginia Department of Transportation-Division of Highway United States Environmental Protection Agency State of West Virginia, Department of Environmental Protection (DEP) Mutual Aid: Berkeley, Washington, Loudon.
Cost Estimate:	$30,000
Potential Funding:	Hazardous Materials Emergency Planning (HMEP) Grant Program Consolidated Rail Infrastructure and Safety Improvement Grants Natural Gas Distribution Infrastructure Safety and Modernization Grants
Benefits (Losses Avoided):	Decreased response time, increased regional response.
Ideas for Integration:	Commodity Flow Study Emergency Operations Plan
Timeline:	1-3 years

Following your review of Project 14, please complete the following six (6) questions.

1. Do you think there would be community acceptance/general support for this mitigation project?
   Yes ◯ No ◯ Unsure ◯
2. Do you think implementation of this mitigation project will enhance the health and safety of the community?
   Yes ◯ No ◯ Unsure ◯
3. Do you think the County will be able to sufficiently staff and/or provide technical support to implement this mitigation project?
   Yes ◯ No ◯ Unsure ◯
4. Do you think the benefits of this mitigation project will exceed the likely costs?
   Yes ◯ No ◯ Unsure ◯
5. Do you think the maintenance requirements for this option will be affordable and not provide an undue burden on the County?
   Yes ◯ No ◯ Unsure ◯
6. Is this project consistent with environmental goals?
   Yes ◯ No ◯ Unsure ◯

Please provide any comments or modifications, if applicable.

Municipal Mitigation Action Priority Form

Name:

Jurisdiction:

Please use this fillable form to select the **top 3-5 municipal mitigation actions** that resonate the most for your specific jurisdiction. Simply click on the button provided in the "Priority Action Item" column to select your choices. Please limit your selection to 3-5 action items. We are requesting completed forms be submitted by **COB Friday, August 18, 2023**.

Municipal Mitigation Action Items			
Priority Action Item	**ID #**	**Municipal Mitigation Action**	**Hazard(s)**
☐	MUN #1	Consider joining FEMA's Community Rating System (CRS) to decrease the cost of flood insurance for residents within municipalities. Partner with the County to complete activities that will result in the obtainment of CRS points.	Flood
☐	MUN #2	Develop Continuity of Operations Plan to ensure government services are provided prior, during, and after hazard incidents.	All hazards
☐	MUN #3	Install generators and/or transfer switch for mobile generators, as applicable at City/Town Halls.	Utility Interruptions
☐	MUN #4	Obtain mobile message sign boards for strategic deployment use during various hazard incidents and for targeted public messaging.	All hazards
☐	MUN #5	Conduct back-up power surveys for all critical infrastructure and an assessment of applicability of renewable energy sources as a potential backup power supply.	All hazards
☐	MUN #6	Review all existing regulations, comprehensive plans, capital improvement plan (CIP) and Emergency Operation Plan (EOP) to ensure that designated growth areas are not in hazard areas. Review existing regulations to ensure adequacy in reducing the amount of future development in identified hazard areas.	All hazards
☐	MUN #7	Pre-wire critical facilities for generators and provide backup generators for all critical facilities including fire departments, water/wastewater treatment plants, and designated shelters that do not yet have them.	All hazards
☐	MUN #8	Teach Community Emergency Response Team (CERT) classes in Jefferson County. Work with municipalities to host classes within their jurisdiction.	All hazards
☐	MUN #9	Create materials that are targeted towards tourist populations. Work with the Jefferson County Convention and Visitors Bureau, the US Park Service, and others to alert tourists to potential natural hazard areas and what to do if a natural or man-made hazard occurs during their visit to Jefferson County.	All hazards
☐	MUN #10	Develop and deliver information to all county residents through community groups, publications town meetings, training seminars and the county website to promote preparedness through preparation and provide hazard related information that is easily accessible. The plan is to expand and update the website as needed and as appropriate in a timely manner to benefit all County residents. Website updates should include Increase education and awareness about shelter-in-place facts, earthquake awareness, including measures to take to safe-proof homes and proper procedures to take to safeguard against and prepare for winter storms. Send information to all municipalities for posting and/or dissemination.	All hazards
☐	MUN #11	Form a partnership amongst county agencies to conduct periodic exercises for all hazards. Primary focus on school bus accident and MCI.	All hazards

Priority Action Item	ID #	Municipal Mitigation Action	Hazard(s)
☐	MUN #12	Coordinate with local private contractors to develop mutual aid agreements for emergency snow removal, also develop a Debris Management Plan that can be implemented following a disaster occurrence.	All hazards
☐	MUN #13	Install Uninterruptible Power Supply (UPS) systems on traffic signals.	All hazards
☐	MUN #14	Install sensory systems that immediately shut off the flow of gas to critical infrastructure throughout the county as soon as earth movements are felt.	Earthquake, Landslide & Land Subsidence, Karst/Sink Holes
☐	MUN #15	Educate the public on the benefits of purchasing flood insurance and increase flood insurance users in Jefferson County. Create displays for use at public events (health fair, public awareness day, and county fair). This display would include pictures and information, such as that contained in FEMA's Retrofitting for Homeowners Guide, Elevating Your Flood Prone Home, Elevating Residential Structures, and information on the NFIP.	Flood
☐	MUN #16	Strengthen Community Rating System (CRS) program to enhance rating by undertaking outreach and training efforts such as: distribute letters to all property owners in the county regarding potential flood hazards as required for participation in the CRS. and provide training to municipalities on the CRS program and encourage them to participate.	Flood
☐	MUN #17	Consider implementing open space designations in landslide prone areas, to keep those areas undeveloped.	Landslide
☐	MUN #18	Develop and distribute educational materials concerning erosion and sediment control and slope stabilization to assets located in landslide prone areas, including the proper installation of erosion control blankets, turf reinforcement mats, silt fences, filter bags, channel dikes and dams and turbidity barriers.	Landslide, Flooding
☐	MUN #19	Form a partnership of agencies to implement an active shooter training program to be delivered to houses of worship, county agencies, volunteer organizations, etc.	Civil Disturbance
☐	MUN #20	Meet with groups of potential volunteers to attempt to increase the number of trained responders. Groups will include all county fire departments, doctors, nurses, and EMS personnel who may become first responders in a bio-terrorism event.	Civil Disturbance, Terrorism
☐	MUN #21	Consider passing ordinances to prioritize or control water use, particularly for emergency situations such as firefighting.	Wild and Urban Fires
☐	MUN #22	Encourage the purchase of flood insurance. Specifically targeting properties outside of the mapped 1-percent annual chance flood zone also known as the Special Flood Hazard Area (SFHA). Use messaging centered on climate change and resulting flooding that is occurring outside of the SFHA.	Flood
☐	MUN #23	Offer specialized training specific to Use-of-Force, Crowd Control, and Civil Disturbances.	Civil Disturbance, Terrorism
☐	MUN #24	Target 65 and older population on fire safety.	Wild and Urban Fires
☐	MUN #25	Conduct "Dark Grid" training and exercises. Emergency management officials can reduce vulnerability to utility interruption through training and exercises, such as the "Dark Grid" exercise, which prepare emergency responders and community leaders for a coordinated response to widespread utility interruptions.	Utility Interruptions
☐	MUN #26	Educate the public on proper use of generators during a power outage. Carbon monoxide poisoning can be a major issue if generators, kerosene heaters, and propane heaters are used inappropriately.	Utility Interruptions
☐	MUN #27	Complete an After-Action Report and Improvement Plan (AAR/IP) on the COVID-19 Incident.	Public Health & Pandemic

Priority Action Item	ID #	Municipal Mitigation Action	Hazard(s)
☐	MUN #28	Collaborate with the Towns and adjacent jurisdictions to conduct watershed assessment(s) to include new Atlas 14 precipitation table- rainfall intensity.	Flood
☐	MUN #29	Integration of hazard planning into both the County and Municipal planning frameworks, which will lead to development patterns and redevelopment that decreases hazard risk and vulnerability. To achieve and facilitate integration, Jefferson County and the Towns should review how planning documents, policies, codes, and programs are maintained and implemented, and the roles of people, agencies, and departments in evaluating and updating them. This depth of review will enable the County and the Towns to identify opportunities for plan integration, resulting in effective ways to reduce hazard vulnerability. Compare areas slated for growth including redevelopment with hazard risk areas.	All hazards
☐	MUN #30	Develop an Extreme Heat Emergency Plan identifying triggers, surveillance, and actions.	Extreme Temperature
☐	MUN #31	Identify public and/or critical facilities that lack grounding/surge protection devices.	Utility Interruptions
☐	MUN #32	2023 Mitigation Strategies should be reviewed in reference to the Capital Improvement Plan for integration purposes. Projects that reduce risk and vulnerability to the citizens of Jefferson County should be given prioritization.	All hazards
☐	MUN #33	Stormwater BMP Project Assessment – County and Municipal Owned Critical Facilities. 1. Assess county and municipal-owned critical facilities and verify aerial observations related to suitability/space for stormwater BMP projects and lessening impervious surfaces at these locations. 2. Reduce the urban heat island effect, beginning with county and municipal-owned properties.	Extreme Heat, Thunderstorm, Flood
☐	MUN #34	Complete a Green Infrastructure Plan for Jefferson County. Include identification of areas for bio-retention.	Flood
☐	MUN #35	Adjust construction regulations to include areas where mapped and verified karst terrain exists, double layers of silt fencing may be implemented, as well as hay bales or core logs along the periphery of the standard workspace area to prevent outward migration of silt and reduce runoff velocity.	Karst
☐	MUN #36	Increase awareness of cyber threats and continue to provide public/private sector cyber security outreach	Cyber Terrorism
☐	MUN #37	Establish a County Cyber Security and Risk Mitigation Plan to be implemented by county and 5 jurisdictions	Cyber Terrorism
☐	MUN #38	Prohibit or block cyber terrorism on public facilities and continuing routine server backups.	Cyber Terrorism
☐	MUN #39	Provide annual cyber-security and awareness training to all County staff to reduce risk and occurrence of phishing and malware attacks	Cyber Terrorism
☐	MUN #40	Monitor water supply and conserve water through public awareness campaigns conducted using news and radio stations. A survey of residential wells and public water customers should also be conducted to evaluate the status of residential drinking water in the county and identify trends.	Drought
☐	MUN #41	Coordinate efforts between Region 9 and adjacent counties to identify groundwater recharge areas and sensitive groundwater areas. Work closely with the municipalities to enforce infiltration and groundwater recharge requirements in these areas to reduce the impacts of drought.	Drought
☐	MUN #42	Encourage the county and municipalities to adjust their zoning ordinance to discourage development on permeable soils to reduce the impacts of drought.	Drought
☐	MUN #43	Utilize pamphlets and articles about the warning signs and the potential damages of thunderstorms and lightning strikes.	Thunderstorm
☐	MUN #44	Reinforce structures and infrastructure against hail and increase awareness before hailstorms with public announcements.	Hail

Priority Action Item	ID #	Municipal Mitigation Action	Hazard(s)
☐	MUN #45	Work with the utility and cable companies to develop a plan for the preventive right-of-way maintenance of trees near powerlines particularly during the winter.	Severe Winter storm
☐	MUN #46	Work with Harpers Ferry and Water Commission to ensure clean drinking water and establish disaster related processes. Note: This action items is specific to Bolivar only.	All Hazards
☐	MUN #47	Review methods for reducing the amount sediment that enters into the Harpers Ferry Wastewater Treatment Plant from Elk Run. Note: This action items is specific to Harpers Ferry only.	Karst
☐	MUN #48	Install fencing around Harpers Ferry Wastewater Treatment Plant to prevent possible contamination such as chemical injection into the open basin. Note: This action items is specific to Harpers Ferry only.	Terrorism
☐	MUN #49	Ensure the newly upgraded computer control at the Harpers Ferry Wastewater Treatment Plant has cyber security in-place. Develop a cyber security threat mitigation strategy to reduce the impact of a cyber security incident. Note: This action items is specific to Harpers Ferry only.	Cyber Terrorism

Appendix D-5: HMPC & Public Open House, August 29, 2023

From:	monica.a.whyte@wv.gov
To:	James, Mark; monica.a.whyte@wv.gov
Subject:	Jefferson County HMP - Open House
Start:	Tuesday, August 29, 2023 1:00:00 PM
End:	Tuesday, August 29, 2023 2:00:00 PM
Location:	Ranson Community Center

August 29, 2023 - Jefferson County Hazard Mitigation Plan Open House
Please join us at our Hazard Mitigation Committee Open House on August 29 at 1PM in the Ranson Civic Center (432 W. 2nd Ave, Ranson WV). This meeting will be and in person 1 hour open house format during which we will provide a briefing on the results of the mitigation strategy and next steps. Hardcopies of the draft plan and map displays will be available for review and comment.
A public open house is planned from 2PM to 5PM during which members of the public are invited to view the plan and will be given an opportunity to ask questions to members of the Hazard Mitigaiton Planning Team.
If you have any questions, please feel free to contact me, other members of our planning team.
Mitigation Strategy Open House
Date: August 29, 2023
Time: 1:00 PM
Location: Ranson Civic Center, 432 W 2nd Ave., Ranson, WV 25438)

Meeting Invite

Please join us at our Hazard Mitigation Committee Open House on August 29 at 1PM in the Ranson Civic Center (432 W. 2nd Ave, Ranson WV). This meeting will be and in person 1 hour open house format during which we will provide a briefing on the results of the mitigation strategy and next steps. Hardcopies of the draft plan and map displays will be available for review and comment.

A public open house is planned from 2PM to 5PM during which members of the public are invited to view the plan and will be given an opportunity to ask questions to members of the Hazard Mitigaiton Planning Team.

If you have any questions, please feel free to contact me, other members of our planning team.

Press Release

Natural and man-made hazards may cause loss of life, property loss, and threats to public health and safety. During a disaster event, essential services including access to healthcare, fire/EMS, utilities, etc., may be affected. A hazard mitigation plan is maintained to serve as guidance to emergency management professionals. The purpose of a hazard mitigation plan is to 1) increase awareness around threats and vulnerabilities; 2) build partnerships for risk reduction; 3) identify long-term strategies for risk reduction; 4) align risk reduction with state and community objectives; and 5) identify approaches that focus resources on greatest risk and vulnerability.

In May 2023, Jefferson County kicked off the hazard mitigation plan and since then community officials and stakeholders and members of the public have been meeting to update the 2018 plan. This update includes revised profiles of identified natural and man-made hazards and newly identified mitigation strategies.

The Jefferson County Office of Homeland Security and Emergency Management invites you to participate in the in the 2023 Multi-Jurisdictional Hazard Mitigation Plan update and attend the public open house that will be held on August 29 from 2PM to 5PM at the Ranson Civic Center (432 W. 2nd Ave, Ranson WV).

This is the last scheduled meeting for the 2023 Hazard Mitigation Plan update. Input from each community and stakeholders is extremely important and critical to the planning process. To access to the plan, meeting material and public surveys, please visit the Jefferson County website.

https://www.jeffersoncountywv.org/county-government/departments/homeland-security-and-emergency-management.

All comments can be directed to The Jefferson County Office of Homeland Security and Emergency Management at jchsem@jeffersoncountywv.org.

JEFFERSON COUNTY HAZARD MITIGATION PLAN

2023 UPDATE

What is Hazard Mitigation?

Hazard mitigation is an action to help reduce long-term risks caused by hazards or disaster, such as flooding, wildfires, of landslides. The purpose of hazard mitigation is to protect people and structures, and minimize the costs of disaster response and recovery. Hazard mitigation can take many forms: capital projects, policies, education, and environmental protection.

Proactive mitigation leads to more cost-effective projects. By contrast, reactive mitigation tends to lead to severe damages and often more costly fixes: it simply costs too much to address the effects of disaster only after they happen. A surprising amount of damage can be prevented if we can anticipate where and how disasters occur and take steps to prevent those damages.

What is a Hazard Mitigation Plan?

Hazard Mitigation Plans (HMPs) are prepared and adopted by counties and municipalities with the primary purpose of identifying, assessing, and reducing the long-term risk to life and property from hazard events. HMPs are most effective when they are based on a comprehensive, long-term plan that is developed before a disaster occurs.

Effective mitigation planning can break the cycle of disaster damage, reconstruction, and repeated damages. There are four key elements of an HMP: 1.) risk assessment 2.) capability assessment 3.) mitigation strategy 4.) plan maintenance procedures.

The purpose of mitigation planning is to identify local policies and actions that can be implemented over the long term to reduce risk and future losses from hazards. These mitigation policies and actions are identified based on an assessment of hazard risks and the participation of a wide range of stakeholders and the public in the planning process.

PURPOSE

The Jefferson County Office of Homeland Security and Emergency Management is leading up the 2023 Jefferson County HMP. This plan is an opportunity to detail a variety of potential hazards that could affect some or all of our residents and will also allow the county and participating municipalities to be eligible for future mitigation funding from the Federal Emergency Management Agency (FEMA).

The goal of the HMP is to identify projects that can reduce damages from future hazards. The HMP includes a risk assessment and hazard mitigation strategy. The primary hazards of concern in the county includes: Drought, Extreme Temperatures, Flood, Public Health Crisis, Severe Thunderstorm and Hail, Severe Winter Storm, Wild and Urban Fires, Hazardous Materials, Terrorism, Cyber Terrorism, and Utility Interruption

The HMP will focus on existing buildings and potential future development, and lifelines that might be impacted to municipal buildings and infrastructure such as power-generation facilities, water utilities, roadways, railroads, and communication systems.

What are the Benefits of Hazard Mitigation?

Mitigation planning will help Jefferson County and the municipalities prepare for disasters before they happen, and reduce impacts when disasters occur.

Benefits include:

- Identifying actions for risk reduction that are agreed upon by stakeholders and the public.
- Focusing resources on the greatest risk and vulnerabilities.
- Building partners by involving citizens, organizations, and businesses.
- Increasing education and awareness of threats and hazards, as well as their risks.
- Communicating priorities to state and federal officials.
- Aligning risk reduction with other community objectives.

What is Required in a Hazard Mitigation Plan?

FEMA regulations require that the public must be engaged in all phases of the HMP development. The HMP should review and incorporate existing plans and programs that can support or enhance hazard mitigation. The HMP must assess the risk to natural hazards that may impact the planning area and identify and prioritize mitigation actions that can be taken. The HMP must also include a strategy to maintaining the plan, which must be updated every 5 years.

For more information:

Steve Allen, Director
Jefferson County Homeland Security and Emergency Management
sallen@jeffersoncountywv.org
(304) 728-3290

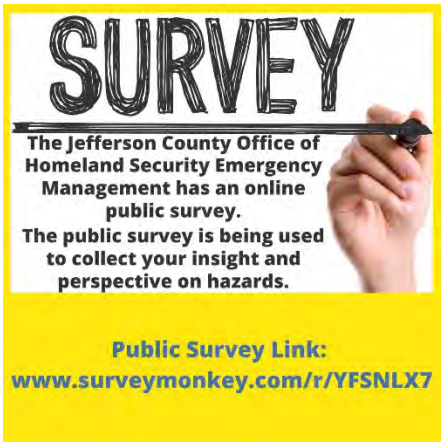
FAQ

How can you reduce/eliminate risk? Identify mitigation actions that can include 1.) local plans and regulations, 2.) structure and infrastructure, 3.) natural systems protection, 4.) education and awareness programs.

What Grant funding is available? FEMA Hazard Mitigation Assistance (HMA) annual and post disaster grant funding is available with a FEMA approved HMP.

Where can I see the 2023 HMP? Sections of the draft HMP are available for review on the Jefferson County Office of Homeland Security and Emergency Management website at:

https://www.jeffersoncountywv.org/county-government/departments/homeland-security-and-emergency-management



SURVEY QR CODE

Jefferson County Homeland Security and Emergency Management
28 Industrial Boulevard
Kearneysville, WV 25430
Phone: 304-728-3329 or 304-728-3290
Fax: 304-728-3320

Tuesday - August 29, 2023 / Ranson Civic Center 1:00 pam. - 2:00 pm.

Last Update 7/25/2023
Hazard Mitigation and Risk Assessment
Update 2023

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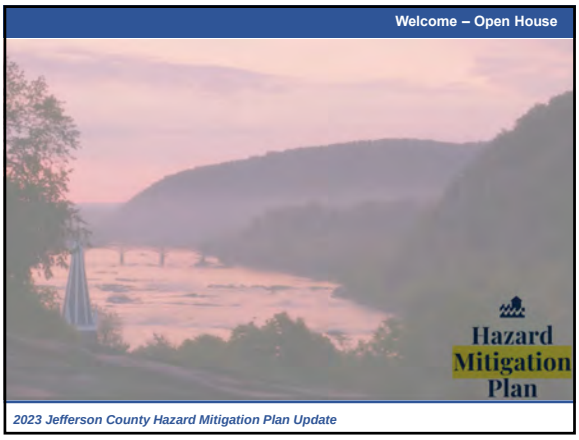
Whittington, Laura		Bolivar	304-535-2476	bolivarth@frontiernet.net
Whyte, Monica		WV Health Department	(304) 725-9453	monica.a.whyte@wv.gov
Willingham, Larry		JC Board of Education	(304) 671-3927	lwilling@k12.wv.us
Wilson, Ted		Summit Point Raceway	304-725-8444	safety@summitpointtraining.com
Wilt, Todd		City of Ranson	(304) 279-4151	twilt@ransonwv.us
Zonfrilli, Makayla		Jefferson County Administator	814-979-3616	mzonfrilli@jeffersoncountywv.org
Low, Bruce	Bruce Low	Citizen	304-582-1684	bruce.low@aol.com

Nissel, John		Charles Town City Manager	240-818-2472	nisseljohn@gmail.com
Burgess, Russell		Information Technology Director	304-728-5605	rburgess@jeffersoncountywv.org
Lutz, Nancy		Eastern Panhandle Conservation	681-247-3010	clawdagh@gmail.com
Lutz, Daniel		Eastern Panhandle Conservation	304-886-5771	p.lutz007@gmail.com
Tabb, David		Eastern Panhandle Conservation	304-676-5976	sssi27@yahoo.com

James, Mark		Michael Baker, Inc.		Mark.James@mbakerintl.com
Virginia Smith		Smith P&D	301-724-7611	vsmith@smithp-d.com
Michele King		Smith P&D	301-724-7611	mking@smithp-d.com
PerezMorales, Monica		Michael Baker, Inc.		Monica.PerezMorales@mbakerintl.com

JEFFERSON COUNTY, WEST VIRGINIA
Hazard Mitigation Plan Update
Draft Plan Review Open House
August 29
Michael Baker INTERNATIONAL

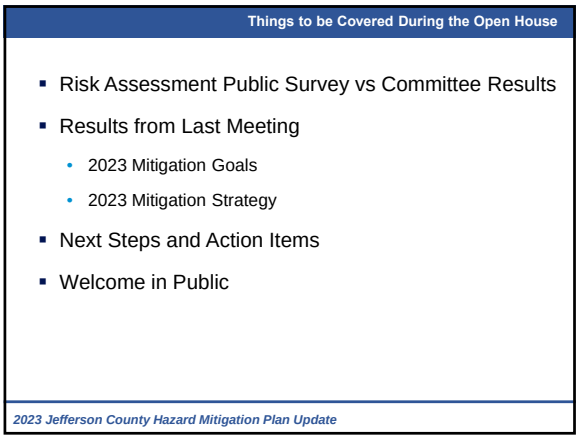
1


Welcome – Open House
Hazard Mitigation Plan
2023 Jefferson County Hazard Mitigation Plan Update

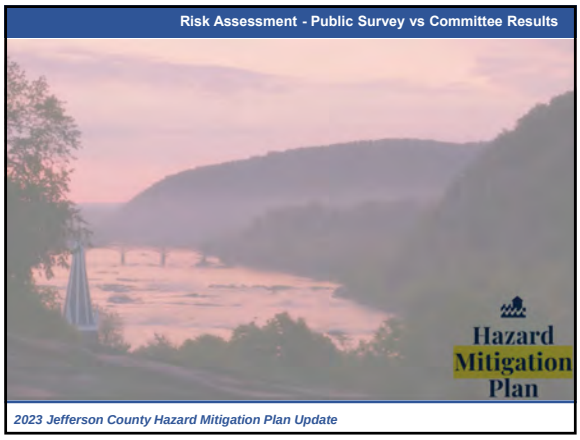
2

Welcome – Open House
Open House Format
Brief Presentation
Available Draft Plan Hardcopies For Review
Hazard Displays
Question and Answer Period
Open to Public
OPEN HOUSE
SUNDAY 2-5
2023 Jefferson County Hazard Mitigation Plan Update

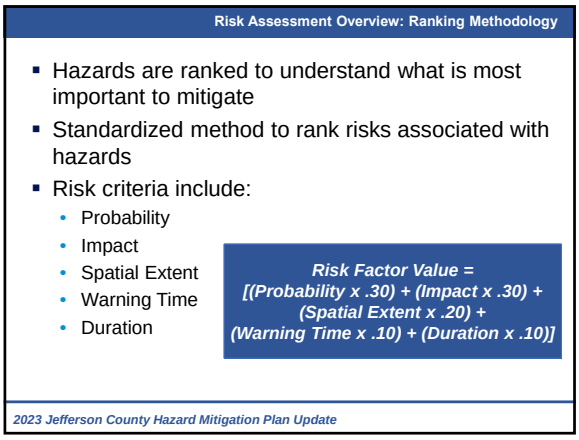
3


Things to be Covered During the Open House
Risk Assessment Public Survey vs Committee Results
Results from Last Meeting
2023 Mitigation Goals
2023 Mitigation Strategy
Next Steps and Action Items
Welcome in Public
2023 Jefferson County Hazard Mitigation Plan Update

4


Risk Assessment - Public Survey vs Committee Results
Hazard Mitigation Plan
2023 Jefferson County Hazard Mitigation Plan Update

5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Hazards are ranked to understand what is most important to mitigate
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Risk Factor Value = [(Probability x .30) + (Impact x .30) + (Spatial Extent x .20) + (Warning Time x .10) + (Duration x .10)]
2023 Jefferson County Hazard Mitigation Plan Update

6

Risk Assessment Overview: Jefferson County Ranking Results

Drought	2.3
Earthquake	1.7
Extreme Temperatures	2.5
Flood	2.4
Invasive Species	2.0
Landslide / Land Subsidence	2.1
Public Health Crisis	2.7
Severe Thunderstorm and Hail	2.4
Severe Wind and Tornado	2.1
Severe Winter Storm	2.5
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Dam Failure	1.9
Civil Disturbance	2.0
Hazardous Materials	2.4
Terrorism	2.3
Karst / Sinkholes	1.9
Cyber Terrorism	2.7
Utility Interruption	2.6

Low
Medium
High

7

Survey Results

- Survey garnered nearly 56 responses!
- Top rated hazard concerns: Utility Interruption, Hazardous Materials, and Severe Thunderstorms.
- Lowest rated hazard concerns: Landslide, Dam Failure and Earthquake.
- Most of the participants feel the community's ability to handle a hazard event is "Average".

8

Survey Results

- Community members are most concerned with:
  - Not having access to clean water
  - Not having electrical power for extended times
  - Not having access to medical services
  - Not being able to get warning messages
  - Not having access to reqiored medicine
  - Not having police or fire protection
- Residents prefer to be notified about hazard events via Cellphone Alert.
  - These are also the suggested best methods for receiving information about preventative measures relating to hazard mitigation.

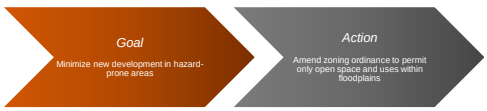
9

Results from Last Meeting

10

Mitigation Strategy Overview: Defining Goals and Actions

- ***Goals:*** General guidelines that describe what your community would like to achieve
- ***Actions:*** The specific activities a community will take to reduce or eliminate risks



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Mitigation Strategy Overview – Decided Goals

2018 GOALS
GOAL 1: Improve communication resiliency through planning, partnerships, and infrastructure development.
GOAL 2: Enhance resiliency of water resources by providing it where it is needed and managing it where it is abundant.
GOAL 3: Promote all-hazards awareness, education, and training to the public, responders, and officials.
GOAL 4: Reduce the vulnerability of populations in risk areas from all hazards.

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Mitigation Strategy Overview – Decided Goals

2023 GOALS
GOAL 1: Improve communication resiliency through planning, partnerships, and infrastructure development.
GOAL 2: Enhance resiliency of county and municipal water resources to reduce flood damage by limiting development in floodplains, effectively managing stormwater, and reducing the possibility of source water contamination.
GOAL 3: Promote all-hazards preparedness, awareness, education, and training to the public, responders, and officials.
GOAL 4: Reduce the vulnerability of populations by creating and integrating programs and projects that are designed to reduce hazards in risk areas.
GOAL 5: Promote hazard mitigation as a local community value in recognition of its importance to the health, safety, and welfare of the population.
GOAL 6: Improve operating systems and backup servers to enhance cyber security measures.
GOAL 7: Enhance hazardous materials response planning and response operations.

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Mitigation Strategy Overview: Mitigation Actions Requirements

- Each municipality must have at least one mitigation action
- There must be at least one mitigation action for each profiled hazard
- Mitigation actions should be realistic and attainable

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County-Wide Mitigation Actions

	New Mitigation Projects
Planning & Regulations	Project 1: Review Codes for Hazard Mitigation Integration Opportunities
	Project 2: Extreme Heat Emergency Plan
	Project 3: Karst Mitigation Plan
Structure & Infrastructure	Project 4: Snow Removal MOU and Debris Management Plan
	Project 5: Dark Grid Training & Exercises
	Project 6: County Cyber Security Plan
Natural Systems Protection	Project 7: Green Infrastructure Plan
	Project 8: Invasive Species Early Detection & Eradication Program
Education & Awareness Program	Project 9: National Flood Insurance Program Messaging
	Project 10: Generator Public Safety Tips
	Project 11: Public and Private Cyber Awareness and Preparedness Outreach
Emergency Services & Public Health	Project 12: Optimus Prime Power – Backup Power Preparedness
	Project 13: Citizen Preparedness Training and Outreach
	Project 14: Hazard Materials Response Plan and Training

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Municipal Mitigation Actions

BOLIVAR	
MUN #2	Develop Continuity of Operations Plan to ensure government services are provided prior, during, and after hazard incidents.
MUN #12	Coordinate with local private contractors to develop mutual aid agreements for emergency snow removal, also develop a Debris Management Plan that can be implemented following a disaster occurrence.
MUN #45	Work with the utility and cable companies to develop a plan for the preventive right-of-way maintenance of trees near powerlines particularly during the winter.
MUN #46	Work with Harpers Ferry and Water Commission to ensure clean drinking water and establish disaster related processes. Note: This action items is specific to Bolivar only.

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Municipal Mitigation Actions

CHARLES TOWN	
MUN #1	Consider joining FEMA's Community Rating System (CRS) to decrease the cost of flood insurance for residents within municipalities. Partner with the County to complete activities that will result in the obtainment of CRS points.
MUN #10	Develop and deliver information to all county residents through community groups, publications town meetings, training seminars and the county website to promote preparedness through preparation and provide hazard related information that is easily accessible. The plan is to expand and update the website as needed and as appropriate in a timely manner to benefit all County residents. Website updates should include Increase education and awareness about shelter-in-place facts, earthquake awareness, including measures to take to safe-proof homes and proper procedures to take to safeguard against and prepare for winter storms. Send information to all municipalities for posting and/or dissemination.
MUN #11	Form a partnership amongst county agencies to conduct periodic exercises for all hazards. Primary focus on school bus accident and MCI.
MUN #13	Install Uninterruptible Power Supply (UPS) systems on traffic signals.
MUN #30	Develop an Extreme Heat Emergency Plan identifying triggers, surveillance, and actions.

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Municipal Mitigation Actions

HARPERS FERRY	
MUN #37	Establish a County Cyber Security and Risk Mitigation Plan to be implemented by county and 5 jurisdictions
MUN #45	Work with the utility and cable companies to develop a plan for the preventive right-of-way maintenance of trees near powerlines particularly during the winter.
MUN #46	Work with Harpers Ferry and Water Commission to ensure clean drinking water and establish disaster related processes. Note: This action items is specific to Bolivar only.
MUN #15	Educate the public on the benefits of purchasing flood insurance and increase flood insurance users in Jefferson County. Create displays for use at public events (health fair, public awareness day, and county fair). This display would include pictures and information, such as that contained in FEMA's Retrofitting for Homeowners Guide, Elevating Your Flood Prone Home, Elevating Residential Structures, and information on the NFIP.
MUN #16	Strengthen Community Rating System (CRS) program to enhance rating by undertaking outreach and training efforts such as: distribute letters to all property owners in the county regarding potential flood hazards as required for participation in the CRS. and provide training to municipalities on the CRS program and encourage them to participate.
MUN #22	Encourage the purchase of flood insurance. Specifically targeting properties outside of the mapped 1-percent annual chance flood zone also known as the Special Flood Hazard Area (SFHA). Use messaging centered on climate change and resulting flooding that is occurring outside of the SFHA.
MUN #35	Adjust construction regulations to include areas where mapped and verified karst terrain exists, double layers of silt fencing may be implemented, as well as hay bales or core logs along the periphery of the standard workspace area to prevent outward migration of silt and reduce runoff velocity.
MUN #45	Work with the utility and cable companies to develop a plan for the preventive right-of-way maintenance of trees near powerlines particularly during the winter.

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SHEPHERDSTOWN	
MUN #1	Consider joining FEMA's Community Rating System (CRS) to decrease the cost of flood insurance for residents within municipalities. Partner with the County to complete activities that will result in the obtainment of CRS points.
MUN #10	Develop and deliver information to all county residents through community groups, publications town meetings, training seminars and the county website to promote preparedness through preparation and provide hazard related information that is easily accessible. The plan is to expand and update the website as needed and as appropriate in a timely manner to benefit all County residents. Website updates should include Increase education and awareness about shelter-in-place facts, earthquake awareness, including measures to take to safe-proof homes and proper procedures to take to safeguard against and prepare for winter storms. Send information to all municipalities for posting and/or dissemination.
MUN #25	Conduct "Dark Grid" training and exercises. Emergency management officials can reduce vulnerability to utility interruption through training and exercises, such as the "Dark Grid" exercise, which prepare emergency responders and community leaders for a coordinated response to widespread utility interruptions.
MUN #37	Establish a County Cyber Security and Risk Mitigation Plan to be implemented by county and 5 jurisdictions.

Review the Draft Hazard Mitigation Plan

Task	Dates
Full Project Timeline	May 2023 – September 2023
Kick Off Meeting	May 24, 2023
Hazard Analysis / Risk Assessment	June 27, 2023
Mitigation Strategy	July 26 – 4hr Workshop
Plan Writing	June – August

Review the Draft HMP

August 29, 2023–September 5, 2023

- Review the Draft HMP
  - Focus areas:
    - Capability Assessment
    - Goals, Objectives, Actions
- Submit Comments
- Disseminate information to residents

https://region9wv.com/hazard-mitigation

May Kick-Off Meeting

June Hazard Analysis Risk Assessment Meeting

July Mitigation Strategy Workshop

Thank You

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Dick Myers, Deputy Director
Jefferson County Homeland Security and Emergency Management
dmyers@jeffersoncountywv.org
(304) 728-3329

Mark James, CFM
Michael Baker International
mark.james@mbakerintl.com
(443) 938-0479

Virginia Smith, AICP
Smith Planning and Design
vsmith@smithp-d.com
(301) 724-7611

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Public Open House

Welcome in Public
2PM

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2023 Jefferson County Plan

Public Open House – Sign In and Comment

August 29, 2023 | 2:00pm – 5:00pm

Name	Community	Contact (optional)	Comment
LAWRENCE SCORZELLI	RANSON	larryscorzelli@gmail.com	
KATHLEEN SCORZELLI	RANSON	kscorz@gmail.com	

Hazard Analysis & Risk Assessment Meeting
OPEN HOUSE
August 29

Michael Baker INTERNATIONAL

1

Things to be covered in this Presentation

- Hazard Mitigation Plan and Project Overview
  - Planning Process Overview
  - Risk Assessment Summary
  - Capability Assessment Overview
  - Mitigation Strategy Summary
- Next Steps and Action Items

2

Project Overview

- The Disaster Mitigation Act of 2000 (Public Law 106-390) requires State, local, or tribal governments to develop and submit for approval a mitigation plan that outlines processes for identifying the natural hazards, risks, and vulnerabilities of the area under the jurisdiction of the government.
- Plans must be updated every 5 years.
- **The current Jefferson County Hazard Mitigation Plan expires in December 2023**.

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Project Overview

- Jefferson County has been working to **update its Hazard Mitigation Plan (MJHMP)** since May 2023.
- Municipal and County officials and other stakeholders participated in **meetings from May through August.**
- Today, the goal is to learn more about **the Draft Plan** and **next steps.**

4

What is Hazard Mitigation?

Hazard mitigation is any **sustained action taken to reduce or eliminate long-term risk** to life and property resulting from natural and human-made hazards.

5

What is a Hazard Mitigation Plan?

- A Hazard Mitigation Plan (HMP) is **a community-driven, living document** that communities use to reduce their vulnerability to hazards.
- Counties **must have a plan to maintain access to certain mitigation grants**.

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Jefferson County Hazard Mitigation Plan Overview

7

Jefferson County Hazard Mitigation Plan Components

1. Introduction
2. Community Profile
3. Planning Process
4. Risk Assessment
5. Capability Assessment
6. Mitigation Strategy
7. Plan Maintenance
8. Adoption

8

Community Profile Overview

- Community Profile:
  - Geography in the Jefferson County and Eastern Panhandle
  - Community facts and key statistics
  - Population and demographic patterns and historical changes
  - Land use and development patterns

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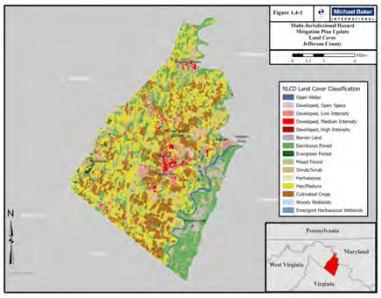
Community Profile Overview



- Approximately 212 square miles
- Two Watersheds: Conococheague-Opequon and Shenandoah
- Approximately 57,701
- Educational services, health care, and social assistance are the major employers

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Planning Process

- Planning Team Assessment and Participation:
  - Kick-Off Meeting (May)
    - Hazard Risk Review
    - Risk Ranking Evaluation
  - Risk Assessment (June)
    - Prioritizing Risks and Hazards
    - Community Capability Assessment
  - Mitigation Solutions Workshop (July)
    - 2018 Plan Mitigation Action Review
    - New Mitigation Action Identification

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Risk Assessment Overview

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Risk Assessment Overview: Hazards in the 2022 MJHMP Update

Natural Hazards

- Drought
- Earthquake
- Extreme Temperatures
- Flood
- Invasive Species
- Landslide & Subsidence
- Public Health Crisis
- Severe Thunderstorm and Hail
- Severe Wind and Tornado
- Severe Winter Storm
- Wild and Urban Fires
- Karst / Sinkholes

Human-Made Hazards

- Dam Failure
- Civil Disturbance
- Hazardous Materials
- Terrorism
- Utility Interruption
- Cyber Terrorism

Blue denotes newly added hazards

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Risk Assessment Overview: Hazard Profiles

- Location and Extent
  - *Where* does the hazard happen?
- Range of Magnitude
  - How *minor or major* might the event be?
- Past Occurrence
  - *When and where* has the event happened in the past?
- Future Occurrence
  - *How likely* is it that the event will happen in the future?
- Vulnerability Assessment
  - What *people, structures, and critical facilities* are at risk?

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Risk Assessment Overview: Ranking Methodology

- Hazards are ranked to understand what is most important to mitigate
- Standardized method to rank risks associated with hazards
- Analysis completed on a countywide basis
- Risk criteria include:
  - Probability
  - Impact
  - Spatial Extent
  - Warning Time
  - Duration

Risk Factor Value = [(Probability x .30) + (Impact x .30) + (Spatial Extent x .20) + (Warning Time x .10) + (Duration x .10)]

15

Risk Assessment Overview: Jefferson County Ranking Results

Drought	2.3
Earthquake	1.7
Extreme Temperatures	2.5
Flood	2.4
Invasive Species	2.0
Landslide / Land Subsidence	2.1
Public Health Crisis	2.7
Severe Thunderstorm and Hail	2.4
Severe Wind and Tornado	2.1
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Civil Disturbance	2.0
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Cyber Terrorism	2.7
Utility Interruption	2.6

Low
Medium
High

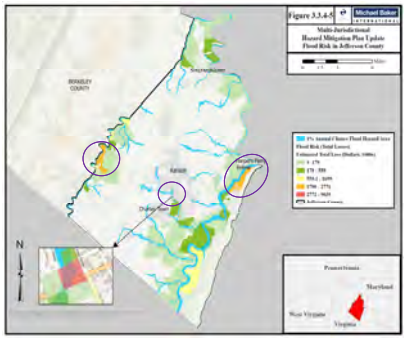
16

Hazard Review: Flooding

Flood Risk & Vulnerability

17

Hazard Review: Flooding



Flood Risk-
Estimated Total Losses

- **Charles Town** - Evitts Run's 1-percent-annual chance floodplain encompasses the area between West Liberty and West Washington streets.
- **Harpers Ferry** –At the confluence of the Potomac River and Shenandoah River and continues the east side of the Shenandoah River until the Blue Ridge Community.
- **Western border of Jefferson and Berkeley counties**. Near Wide Horizon Boulevard to Hidden Hollow Road and impacted by Opequon Creek.

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Hazard Review: Flooding

Table 3.3.4-10 Community Assets Flood Vulnerability for Jefferson County & Municipalities

Community	Religious Org.	Govt. Bldg.	Utility	Education	EMS	Other	Total
Unincorporated	2	2	1	0	0	0	5
Bolivar	0	0	1	0	0	0	1
Charles Town	0	0	1	0	0	0	1
Harpers Ferry	0	1	0	0	0	0	1
Ranson	1	0	0	0	0	0	1
Shepherdstown	0	0	1	3	0	0	4
Jefferson County Total	**3**	**3**	**4**	**3**	**0**	**0**	**13**

Source: Region 9 Tabular Community-Level Report Link: data.wvgis.wvu.edu -/pub/RA/State/CL/Community_Asset/

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Hazard Review: Flooding

Community	Religious Org.	Govt. Bldg.	Utility	Education	EMS	Other	Total
Bolivar	0	0	1	0	0	0	1

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Hazard Review: Flooding

Community	Religious Org.	Govt. Bldg.	Utility	Education	EMS	Other	Total
Charles Town	0	0	1	0	0	0	1

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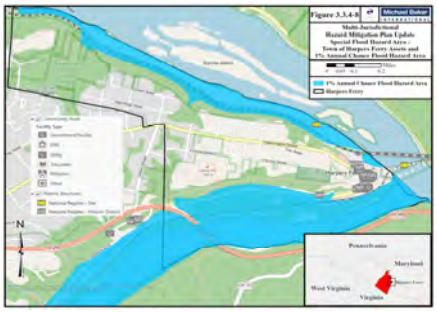
Hazard Review: Flooding



Community	Religious Org.	Govt. Bldg.	Utility	Education	EMS	Other	Total
Harpers Ferry	0	1	0	0	0	0	1

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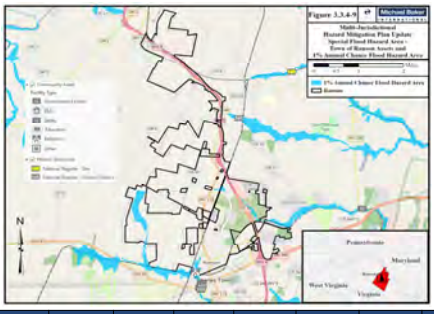
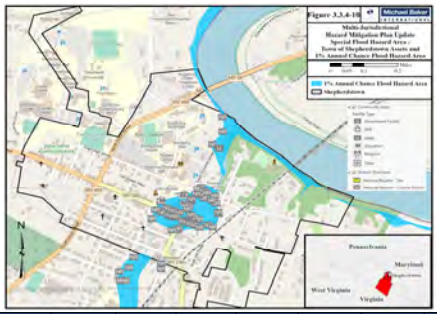
Hazard Review: Flooding



Community	Religious Org.	Govt. Bldg.	Utility	Education	EMS	Other	Total
Ranson	1	0	0	0	0	0	1

23

Hazard Review: Flooding



Community	Religious Org.	Govt. Bldg.	Utility	Education	EMS	Other	Total
Shepherdstown	0	0	1	3	0	0	4

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Dam Failure Risk & Vulnerability

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Table 3.3.13-1 Dam Hazard Potential Classifications (WV DEP)

CLASS	DESCRIPTION
1 (High Hazard)	Dams located where failure may cause loss of human life or major damage to dwellings, commercial or industrial buildings, main railroads, important public utilities, or where a high-risk highway may be affected or damaged. This classification must be used if failure may result in the loss of human life.
2 (Significant Hazard)	Dams located where failure may cause minor damage to dwellings, commercial or industrial buildings, important public utilities, main railroads, or cause major damage to unoccupied buildings, or where a low-risk highway may be affected or damaged. The potential for loss of human life resulting from failure of a Class 2 dam must be unlikely.
3 (Low Hazard)	Dams located in rural or agricultural areas where failure may cause minor damage to nonresidential and normally unoccupied buildings, or rural or agricultural land. Failure of a Class 3 dam would cause only a loss of the dam itself and a loss of property use, such as use of related roads, with little additional damage to adjacent property. The potential for loss of human life resulting from failure of a Class 3 dam must be unlikely. An impoundment exceeding forty (40) feet in height, or four hundred (400) acre-feet storage volume shall not be classified as a Class 3 dam. A waste disposal dam, the failure of which may cause significant harm to the environment, shall not be classified as a Class 3 dam.
4 (Negligible Hazard)	Dams where failure is expected to have no potential for loss of human life, no potential for property damage and no potential for significant harm to the environment. Examples of Class 4 dams include: dams across rivers, failure of which under any conditions will not flood areas above normal streambank elevations; dams located in the reservoir of another dam which, under any conditions, can contain water released by failure of the Class 4 dam; and dams in series where the toe of the Class 4 dam(s) is in close proximity to the reservoir of a dam which can contain failure of the Class 4 dam(s) under any condition. In considering a request for a Class 4 designation, the director may require written concurrence from the owner(s) of downstream dams that may be affected by failure of the Class 4 dam. Approval for use of this classification is vested in the director and will be based on engineering evaluation of the dam(s) and downstream areas in question.

Dams within Jefferson County

Class 1 – High:
- None

Class 2 – Significant:
- Lake Shannondale Dam

Class 3 – Low:
- Lake Forest Dam
- Millville Dam

Class 4 – Negligible:
- Keys Ferry Acres Lake Dams #1, #2 & #3

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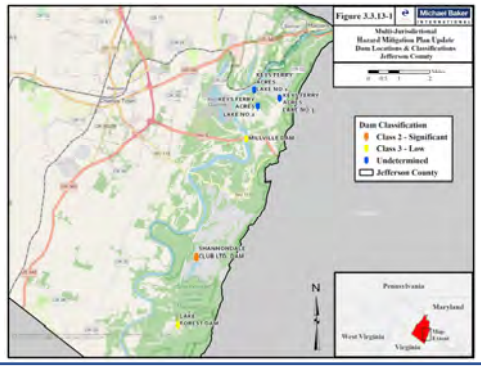

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Lake Shannondale Dam – Significant

Suggested Sites for Roadblocks:
- Gate 2 (blocking entrance to Mission Road at Lower Clubhouse Road)
- Gate 3 (blocking entrance to Upper Clubhouse Road at Mission Road)
- On Upper Clubhouse Road when street name changes to Lakeside Drive (blocking
- access to Lakeside Drive which goes over the Dam)
- At the Dam and Laurel Hill Road (blocking access to Lakeside Drive at the Dam)
- At the Dam and Gingerbread Lane (blocking access to Lakeside Drive at the Dam)
- All intersections of Lower Clubhouse Road leading to Lakeside Drive

Note that if the Dam failure should occur, and the Dam spillage reaches Mission Road, the water flow across Mission Road might cut off traffic's access to Route 115.

Source: LAKE SHANNONDALE DAM - JEFFERSON COUNTY, WV - WV ID # 03701 MONITORING AND EMERGENCY ACTION PLAN: UPDATED OCTOBER 14, 2021

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- In the winter and early spring, major flooding has occurred as a result of heavy rainfall on dense snowpack throughout contributing watersheds.
- Summer floods have occurred from intense rainfall on previously saturated soils.
- Every two to three years, serious flooding occurs along one or more of the area's major rivers or streams and it is not unusual for such events to happen several years in succession

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- 75 flooding events (flash floods & Riverine floods) reported since 1996
- 153 claims for flood damage have been made since 1979, exceeding $2.3 million in NFIP payments

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Survey Results

- Survey garnered nearly 56 responses!
- Top rated hazard concerns: Utility Interruption, Hazardous Materials, and Severe Thunderstorms.
- Lowest rated hazard concerns: Landslide, Dam Failure and Earthquake.
- Most of the participants feel the community's ability to handle a hazard event is "Average".

31

Survey Results

- Community members are most concerned with:
  - Not having access to clean water
  - Not having electrical power for extended times
  - Not having access to medical services
  - Not being able to get warning messages
  - Not having access to reqiored medicine
  - Not having police or fire protection
- Residents prefer to be notified about hazard events via Cellphone Alert.
  - These are also the suggested best methods for receiving information about preventative measures relating to hazard mitigation.

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Capability Assessment Overview

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Capability Assessment Overview: Planning & Regulatory Capabilities

- Jefferson County Comprehensive Plan (currently being updated),
- Municipal Comprehensive Plans – All five local municipalities
- Zoning Ordinances, Subdivision Regulations and Building Codes
- Floodplain Ordinance
- Jefferson County Emergency Operations Plan
- Source Water Protection Plan
- Jefferson County Stormwater Management Ordinance

- **NFIP**: 5 out of 5 jurisdictions participate.
- **Community Rating System (CRS): 6** CRS classes that provide varied reduction in insurance premiums for property owners in both the SFHA and non-SFHA. Floodplain management programs go beyond the NFIP requirements

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Capability Assessment Overview: Administrative & Technical Capabilities

- Some County staff Engineers, while other jurisdictions contract engineering resources from consulting firms.
  - Address hazardous impacts through adopted building code/ordinance, storm water ordinance, and MS4 compliance.
- Administrative and technical capability varies between the municipalities due mainly to population size and resources.

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Capability Assessment Overview: Plan Integration

- A **two-way exchange of information** between a hazard mitigation plan and other community plans
  - Incorporation of risk reduction concepts in community plans
  - Consistent information and goals between all plans
- An **understanding** between agencies and organizations with a stake in the built environment of their role in hazard mitigation

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Mitigation Strategy Overview

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Mitigation Strategy Overview: Components

- Progress Review of 2018 Mitigation Actions
- Goals and Objectives
- Mitigation Techniques
- Mitigation Action Plan and Projects

38

Mitigation Strategy Overview: Defining Goals and Actions

- ***Goals:*** General guidelines that describe what your community would like to achieve
- ***Actions:*** The specific activities a community will take to reduce or eliminate risks

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Mitigation Strategy Overview – Decided Goals

2018 GOALS
GOAL 1: Improve communication resiliency through planning, partnerships, and infrastructure development.
GOAL 2: Enhance resiliency of water resources by providing it where it is needed and managing it where it is abundant.
GOAL 3: Promote all-hazards awareness, education, and training to the public, responders, and officials.
GOAL 4: Reduce the vulnerability of populations in risk areas from all hazards.

40

Mitigation Strategy Overview – Decided Goals

2023 GOALS
GOAL 1: Improve communication resiliency through planning, partnerships, and infrastructure development.
GOAL 2: Enhance resiliency of county and municipal water resources to reduce flood damage by limiting development in floodplains, effectively managing stormwater, and reducing the possibility of source water contamination.
GOAL 3: Promote all-hazards preparedness, awareness, education, and training to the public, responders, and officials.
GOAL 4: Reduce the vulnerability of populations by creating and integrating programs and projects that are designed to reduce hazards in risk areas.
GOAL 5: Promote hazard mitigation as a local community value in recognition of its importance to the health, safety, and welfare of the population.
GOAL 6: Improve operating systems and backup servers to enhance cyber security measures.
GOAL 7: Enhance hazardous materials response planning and response operations.

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Mitigation Strategy Overview

- FEMA mitigation planning guidance identifies four types of mitigation activities:
  - Plans and Regulations
  - Structure and Infrastructure Projects
  - Natural Systems Protection
  - Education and Awareness Programs

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Mitigation Strategy Overview: Plans and Regulations

- Government authorities, policies, or codes that influence the way land and buildings are developed and built such as:
  - Comprehensive Plans
  - Subdivision Regulations
  - Building Codes and Enforcement
  - Capital improvement Programs
  - Stormwater Management Plans
  - Emergency Operations Plans

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Mitigation Strategy Overview: Structure and Infrastructure Projects

- Modifying existing structures and infrastructure to remove from a hazard area
- Construction of manmade structures to reduce impacts of hazards

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Mitigation Strategy Overview: Natural Systems Protection

- Actions that minimize damage and losses and also preserve or restore the functions of natural systems
  - Sediment and erosion control
  - Stream corridor restoration
  - Forest management
  - Conservation easements
  - Wetland restoration and preservation

45

Mitigation Strategy Overview: Education & Awareness Programs

- National preventative programs
- Mailings to hazard-prone communities
- Websites with maps and information
- Presentations to community groups
- Radio or TV spots

46

Mitigation Strategy Overview: Mitigation Actions

- Each municipality must have at least one mitigation action
- There must be at least one mitigation action for each profiled hazard
- Mitigation actions should be realistic and attainable

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County-Wide Mitigation Actions

	New Mitigation Projects
Planning & Regulations	Project 1: Review Codes for Hazard Mitigation Integration Opportunities
	Project 2: Extreme Heat Emergency Plan
	Project 3: Karst Mitigation Plan
Structure & Infrastructure	Project 4: Snow Removal MOU and Debris Management Plan
	Project 5: Dark Grid Training & Exercises
	Project 6: County Cyber Security Plan
Natural Systems Protection	Project 7: Green Infrastructure Plan
	Project 8: Invasive Species Early Detection & Eradication Program
Education & Awareness Program	Project 9: National Flood Insurance Program Messaging
	Project 10: Generator Public Safety Tips
	Project 11: Public and Private Cyber Awareness and Preparedness Outreach
Emergency Services & Public Health	Project 12: Optimus Prime Power – Backup Power Preparedness
	Project 13: Citizen Preparedness Training and Outreach
	Project 14: Hazard Materials Response Plan and Training

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Municipal Mitigation Actions

BOLIVAR	
MUN #2	Develop Continuity of Operations Plan to ensure government services are provided prior, during, and after hazard incidents.
MUN #12	Coordinate with local private contractors to develop mutual aid agreements for emergency snow removal, also develop a Debris Management Plan that can be implemented following a disaster occurrence.
MUN #45	Work with the utility and cable companies to develop a plan for the preventive right-of-way maintenance of trees near powerlines particularly during the winter.
MUN #46	Work with Harpers Ferry and Water Commission to ensure clean drinking water and establish disaster related processes. Note: This action items is specific to Bolivar only.

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Municipal Mitigation Actions

CHARLES TOWN	
MUN #1	Consider joining FEMA's Community Rating System (CRS) to decrease the cost of flood insurance for residents within municipalities. Partner with the County to complete activities that will result in the obtainment of CRS points.
MUN #10	Develop and deliver information to all county residents through community groups, publications town meetings, training seminars and the county website to promote preparedness through preparation and provide hazard related information that is easily accessible. The plan is to expand and update the website as needed and as appropriate in a timely manner to benefit all County residents. Website updates should include Increase education and awareness about shelter-in-place facts, earthquake awareness, including measures to take to safe-proof homes and proper procedures to take to safeguard against and prepare for winter storms. Send information to all municipalities for posting and/or dissemination.
MUN #11	Form a partnership amongst county agencies to conduct periodic exercises for all hazards. Primary focus on school bus accident and MCI.
MUN #13	Install Uninterruptible Power Supply (UPS) systems on traffic signals.
MUN #30	Develop an Extreme Heat Emergency Plan identifying triggers, surveillance, and actions.

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Municipal Mitigation Actions

HARPERS FERRY	
MUN #37	Establish a County Cyber Security and Risk Mitigation Plan to be implemented by county and 5 jurisdictions
MUN #45	Work with the utility and cable companies to develop a plan for the preventive right-of-way maintenance of trees near powerlines particularly during the winter.
MUN #46	Work with Harpers Ferry and Water Commission to ensure clean drinking water and establish disaster related processes. Note: This action items is specific to Bolivar only.
MUN #15	Educate the public on the benefits of purchasing flood insurance and increase flood insurance users in Jefferson County. Create displays for use at public events (health fair, public awareness day, and county fair). This display would include pictures and information, such as that contained in FEMA's Retrofitting for Homeowners Guide, Elevating Your Flood Prone Home, Elevating Residential Structures, and information on the NFIP.
MUN #16	Strengthen Community Rating System (CRS) program to enhance rating by undertaking outreach and training efforts such as: distribute letters to all property owners in the county regarding potential flood hazards as required for participation in the CRS. and provide training to municipalities on the CRS program and encourage them to participate.
MUN #22	Encourage the purchase of flood insurance. Specifically targeting properties outside of the mapped 1-percent annual chance flood zone also known as the Special Flood Hazard Area (SFHA). Use messaging centered on climate change and resulting flooding that is occurring outside of the SFHA.
MUN #35	Adjust construction regulations to include areas where mapped and verified karst terrain exists, double layers of silt fencing may be implemented, as well as hay bales or core logs along the periphery of the standard workspace area to prevent outward migration of silt and reduce runoff velocity.
MUN #45	Work with the utility and cable companies to develop a plan for the preventive right-of-way maintenance of trees near powerlines particularly during the winter.

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Municipal Mitigation Actions

SHEPHERDSTOWN	
MUN #1	Consider joining FEMA's Community Rating System (CRS) to decrease the cost of flood insurance for residents within municipalities. Partner with the County to complete activities that will result in the obtainment of CRS points.
MUN #10	Develop and deliver information to all county residents through community groups, publications town meetings, training seminars and the county website to promote preparedness through preparation and provide hazard related information that is easily accessible. The plan is to expand and update the website as needed and as appropriate in a timely manner to benefit all County residents. Website updates should include Increase education and awareness about shelter-in-place facts, earthquake awareness, including measures to take to safe-proof homes and proper procedures to take to safeguard against and prepare for winter storms. Send information to all municipalities for posting and/or dissemination.
MUN #25	Conduct "Dark Grid" training and exercises. Emergency management officials can reduce vulnerability to utility interruption through training and exercises, such as the "Dark Grid" exercise, which prepare emergency responders and community leaders for a coordinated response to widespread utility interruptions.
MUN #37	Establish a County Cyber Security and Risk Mitigation Plan to be implemented by county and 5 jurisdictions.

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Next Steps and Action Items

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Review the Draft MJHMP

Review the Draft Hazard Mitigation Plan

Task	Dates
Full Project Timeline	May 2023 – September 2023
Kick Off Meeting	May 24, 2023
Hazard Analysis / Risk Assessment	June 27, 2023
Mitigation Strategy	July 26 – 4hr Workshop
Plan Writing	June – August

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Hazard Mitigaiton Planning Committee

May Kick-Off Meeting

June Hazard Analysis Risk Assessment Meeting

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Hazard Mitigaiton Planning Committee

July Mitigation Strategy Workshop

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Thank You

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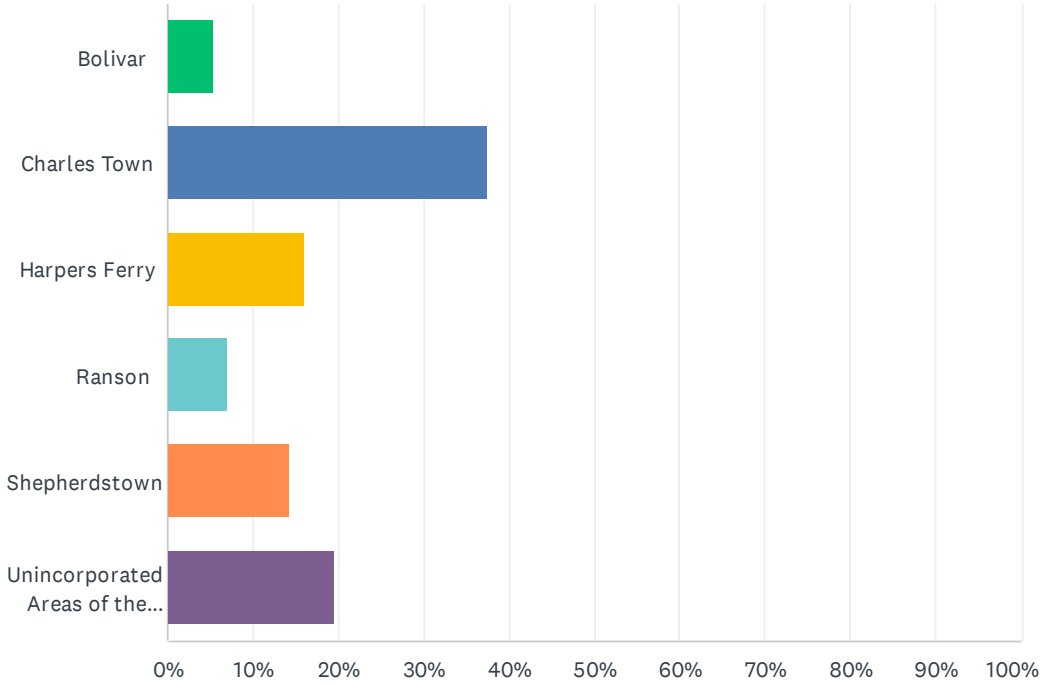
Appendix D-6: Public Survey Results

Q1 Please select the jurisdiction you live in.

Answered: 56 Skipped: 0



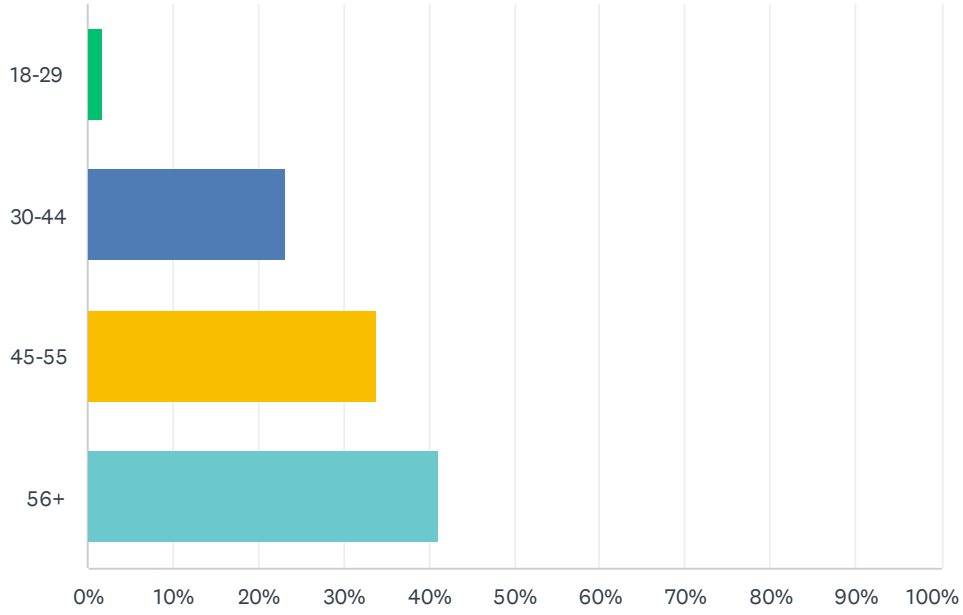
ANSWER CHOICES	RESPONSES	
Bolivar	5.36%	3
Charles Town	37.50%	21
Harpers Ferry	16.07%	9
Ranson	7.14%	4
Shepherdstown	14.29%	8
Unincorporated Areas of the County	19.64%	11
TOTAL		56

Q2 Please enter your zip code.

Answered: 56 Skipped: 0

Q3 Please indicate your age.

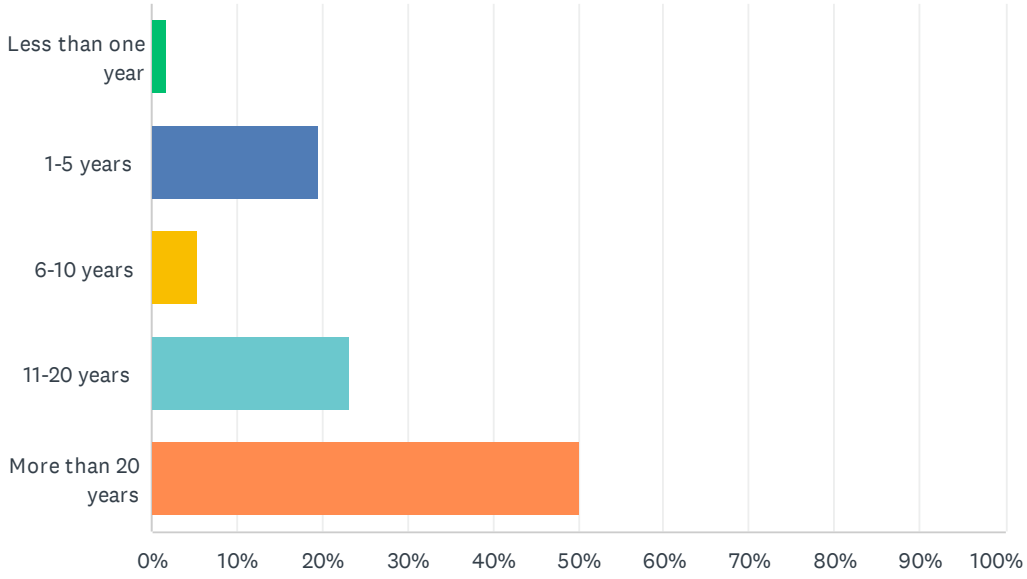
Answered: 56 Skipped: 0



ANSWER CHOICES	RESPONSES	
18-29	1.79%	1
30-44	23.21%	13
45-55	33.93%	19
56+	41.07%	23
TOTAL		56

Q4 How long have you resided in your community?

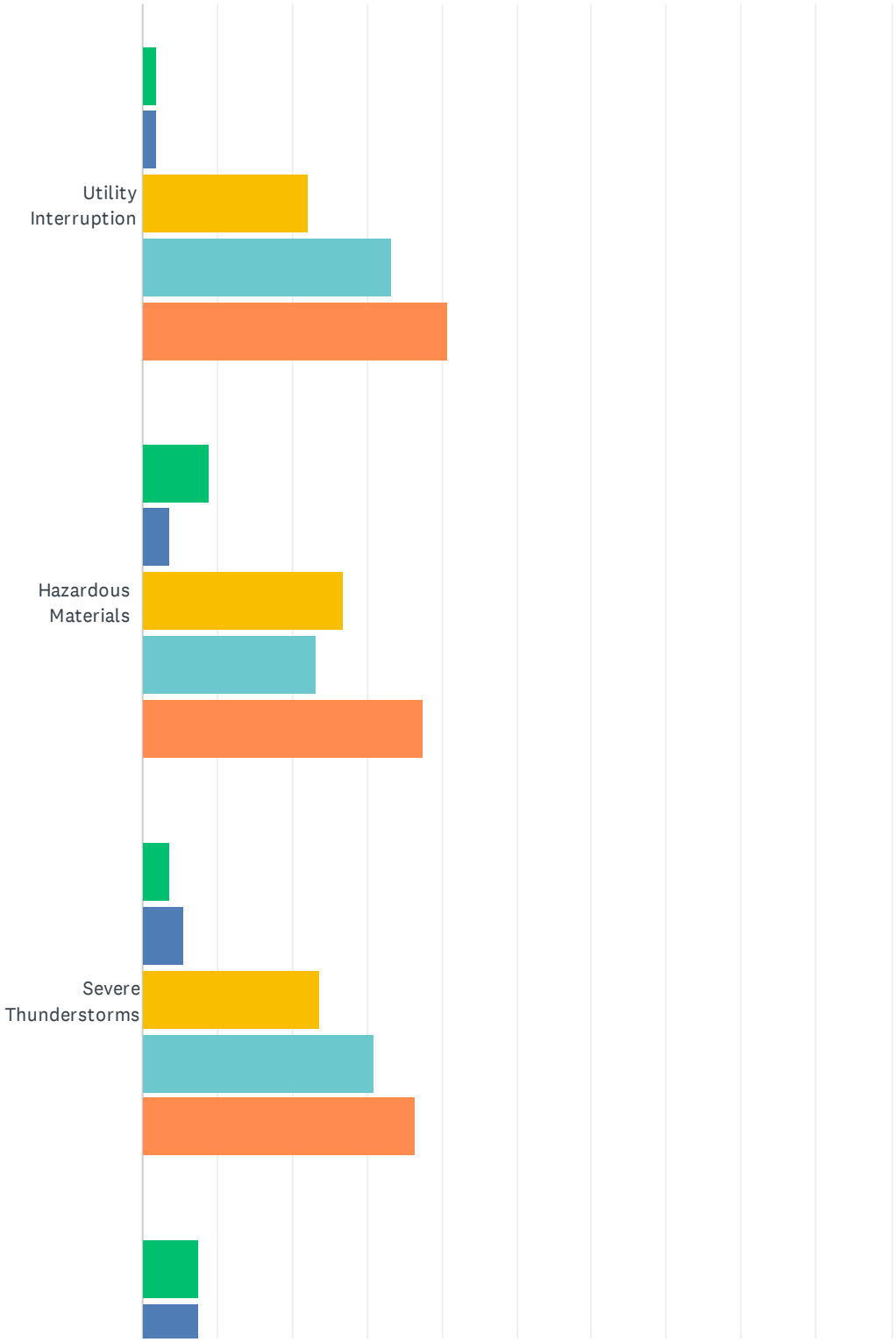
Answered: 56 Skipped: 0

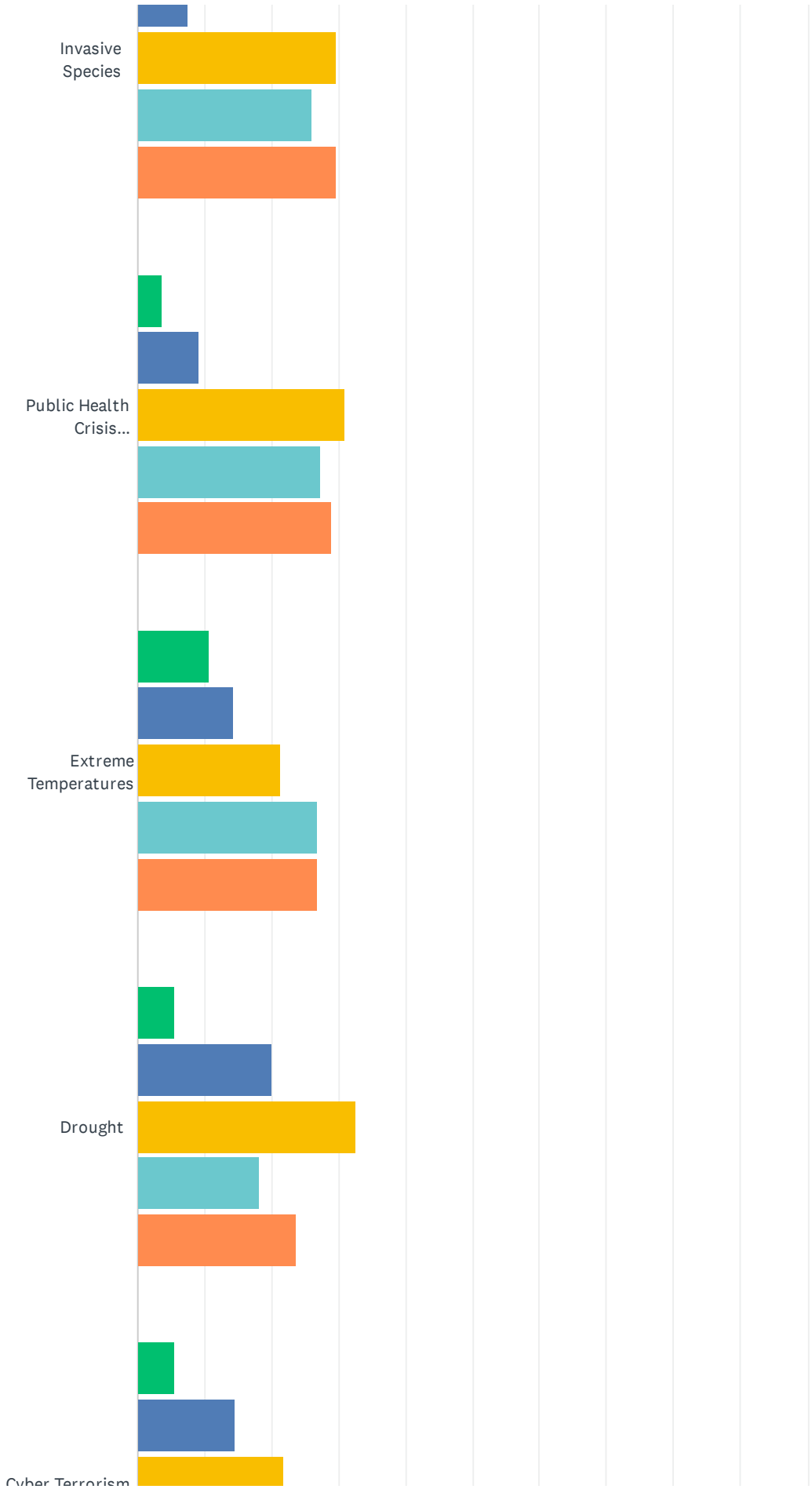


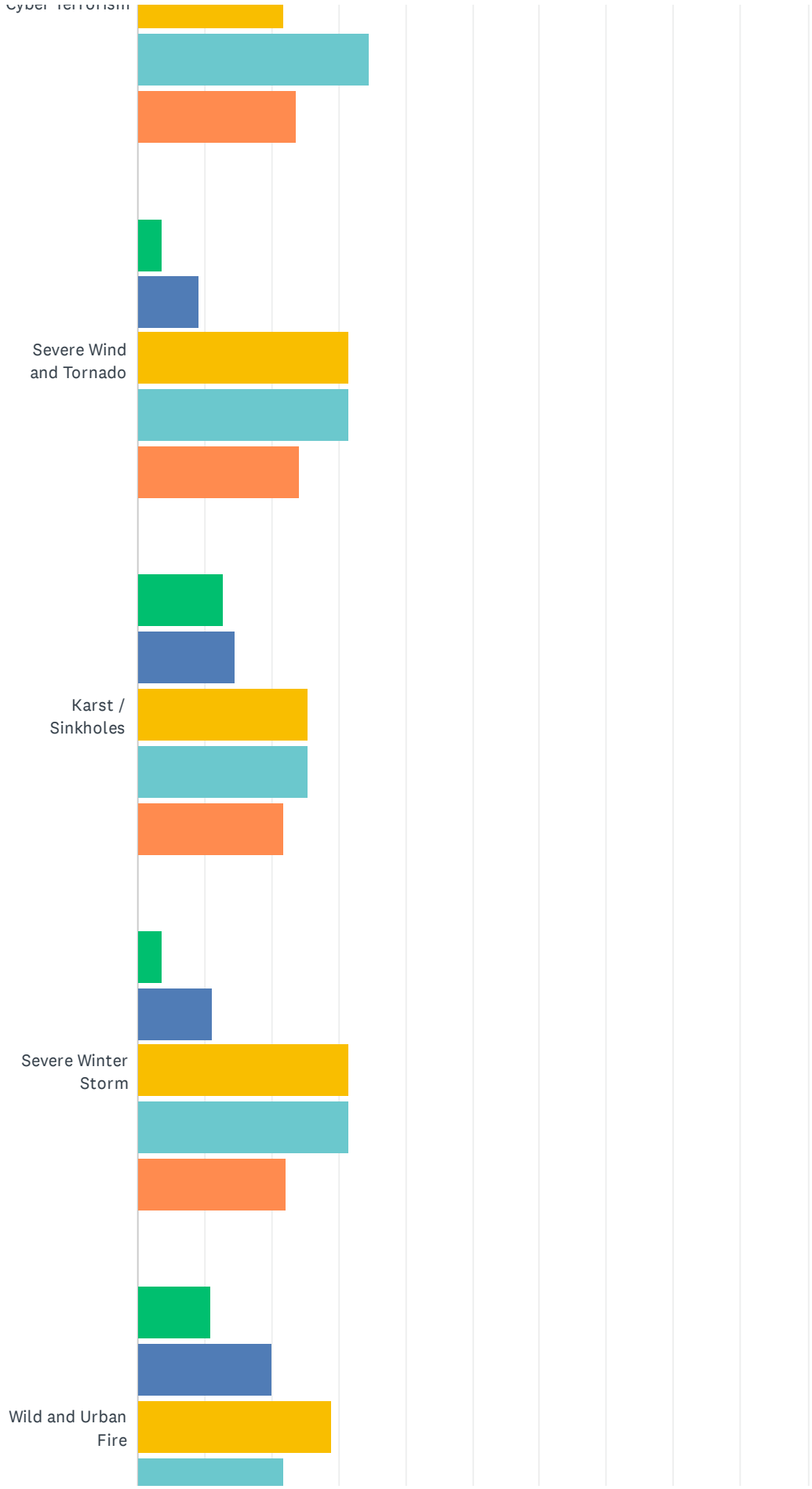
ANSWER CHOICES	RESPONSES	
Less than one year	1.79%	1
1-5 years	19.64%	11
6-10 years	5.36%	3
11-20 years	23.21%	13
More than 20 years	50.00%	28
TOTAL		56

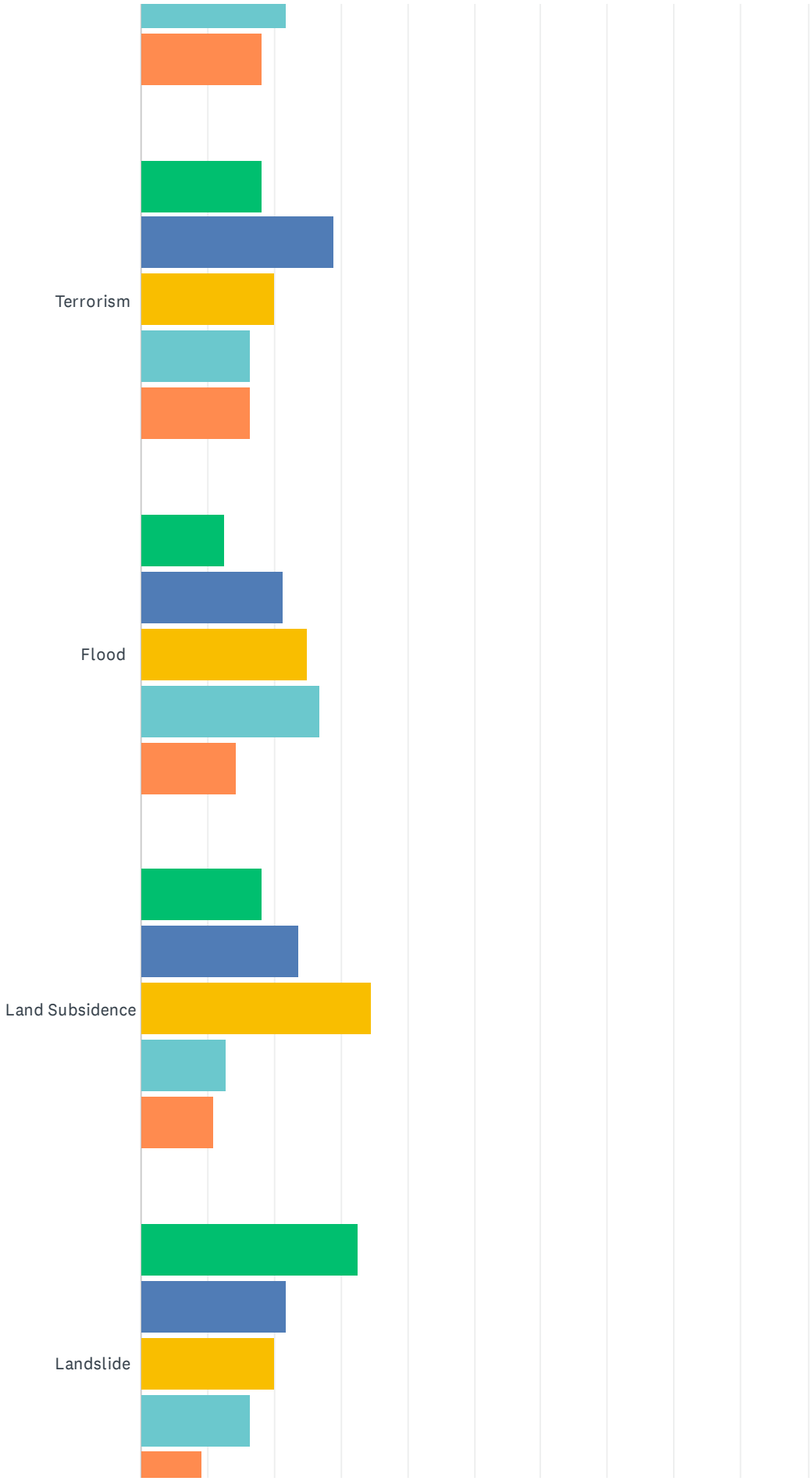
Q5 Please rate each of the following hazards on a scale of 1 to 5 indicating the level of risk you feel each hazards presents to your community. For example, a score of 1 represents the lowest risk and a score of 5 represents the highest risk.

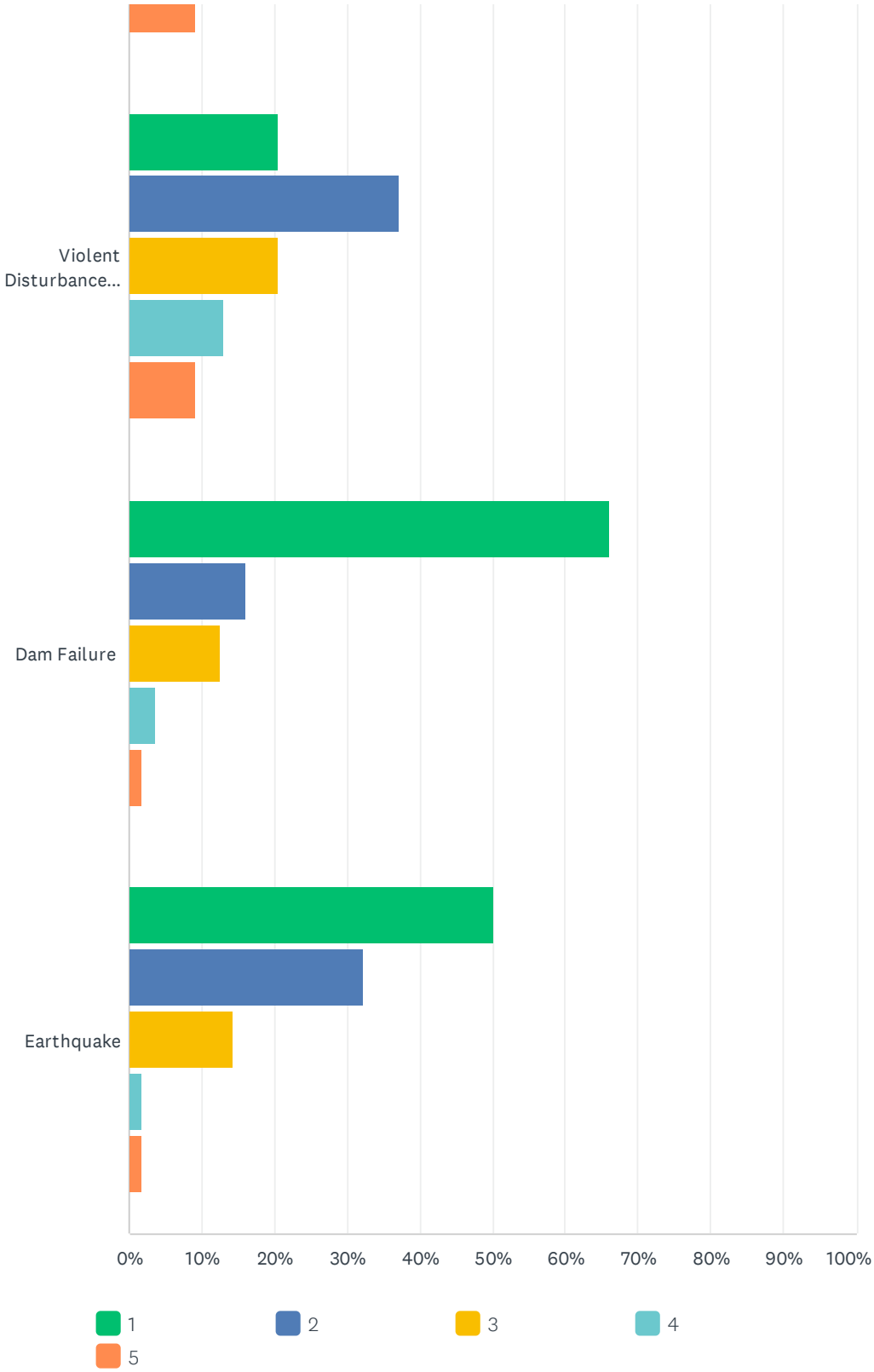
Answered: 56 Skipped: 0




Invasive Species
Public Health Crisis...
Extreme Temperatures
Drought
Cyber Terrorism


Severe Wind and Tornado
Karst / Sinkholes
Severe Winter Storm
Wild and Urban Fire

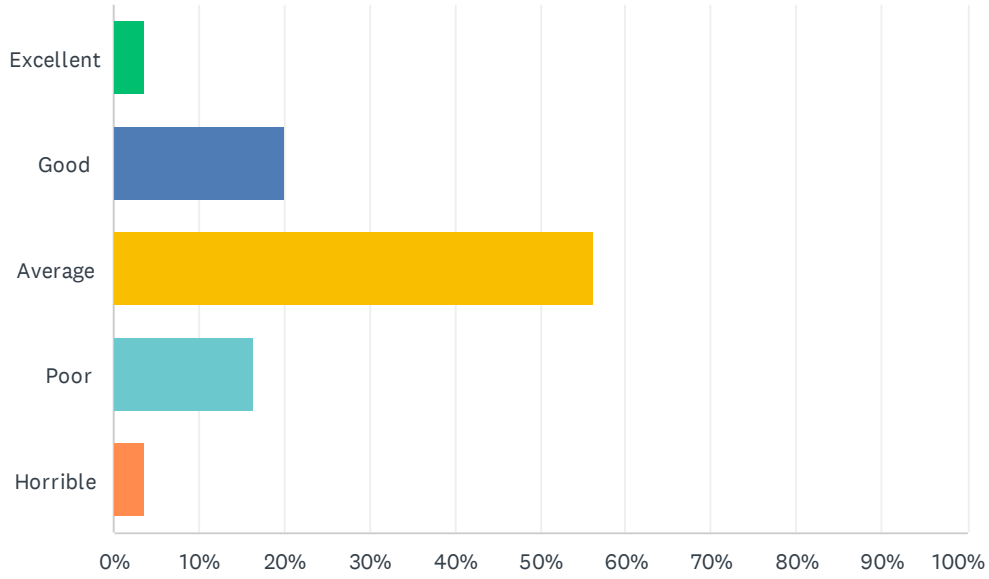

Terrorism
Flood
Land Subsidence
Landslide


Violent Disturbance...
Dam Failure
Earthquake
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
1
2
3
4
5

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
Utility Interruption	1.85% 1	1.85% 1	22.22% 12	33.33% 18	40.74% 22	54	4.09
Hazardous Materials	8.93% 5	3.57% 2	26.79% 15	23.21% 13	37.50% 21	56	3.77
Severe Thunderstorms	3.64% 2	5.45% 3	23.64% 13	30.91% 17	36.36% 20	55	3.91
Invasive Species	7.41% 4	7.41% 4	29.63% 16	25.93% 14	29.63% 16	54	3.63
Public Health Crisis (includes pandemics and epidemics, and substance abuse)	3.64% 2	9.09% 5	30.91% 17	27.27% 15	29.09% 16	55	3.69
Extreme Temperatures	10.71% 6	14.29% 8	21.43% 12	26.79% 15	26.79% 15	56	3.45
Drought	5.45% 3	20.00% 11	32.73% 18	18.18% 10	23.64% 13	55	3.35
Cyber Terrorism	5.45% 3	14.55% 8	21.82% 12	34.55% 19	23.64% 13	55	3.56
Severe Wind and Tornado	3.70% 2	9.26% 5	31.48% 17	31.48% 17	24.07% 13	54	3.63
Karst / Sinkholes	12.73% 7	14.55% 8	25.45% 14	25.45% 14	21.82% 12	55	3.29
Severe Winter Storm	3.70% 2	11.11% 6	31.48% 17	31.48% 17	22.22% 12	54	3.57
Wild and Urban Fire	10.91% 6	20.00% 11	29.09% 16	21.82% 12	18.18% 10	55	3.16
Terrorism	18.18% 10	29.09% 16	20.00% 11	16.36% 9	16.36% 9	55	2.84
Flood	12.50% 7	21.43% 12	25.00% 14	26.79% 15	14.29% 8	56	3.09
Land Subsidence	18.18% 10	23.64% 13	34.55% 19	12.73% 7	10.91% 6	55	2.75
Landslide	32.73% 18	21.82% 12	20.00% 11	16.36% 9	9.09% 5	55	2.47
Violent Disturbance (includes active assailant, bomb threat, riots)	20.37% 11	37.04% 20	20.37% 11	12.96% 7	9.26% 5	54	2.54
Dam Failure	66.07% 37	16.07% 9	12.50% 7	3.57% 2	1.79% 1	56	1.59
Earthquake	50.00% 28	32.14% 18	14.29% 8	1.79% 1	1.79% 1	56	1.73

Q6 Think back to a recent hazard occurrence (any from question #5). How would you rate your community's ability to handle the hazard event?

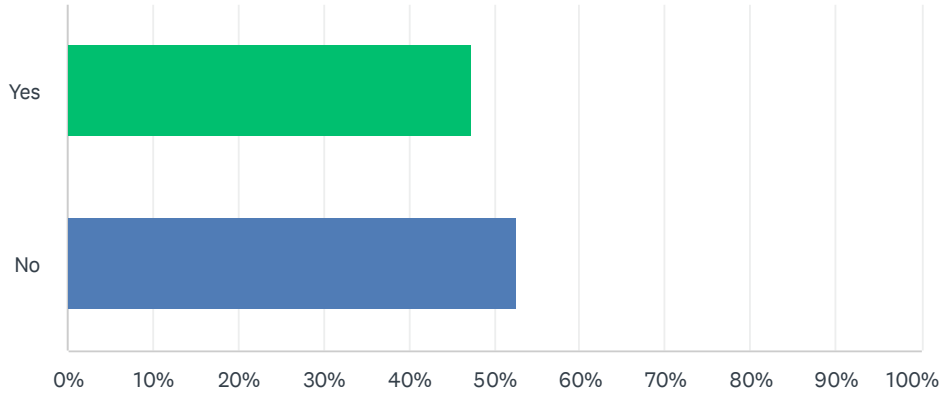
Answered: 55 Skipped: 1



ANSWER CHOICES	RESPONSES	
Excellent	3.64%	2
Good	20.00%	11
Average	56.36%	31
Poor	16.36%	9
Horrible	3.64%	2
TOTAL		55

Q7 During this event, did you receive information or warnings from your local public officials/emergency management officials?

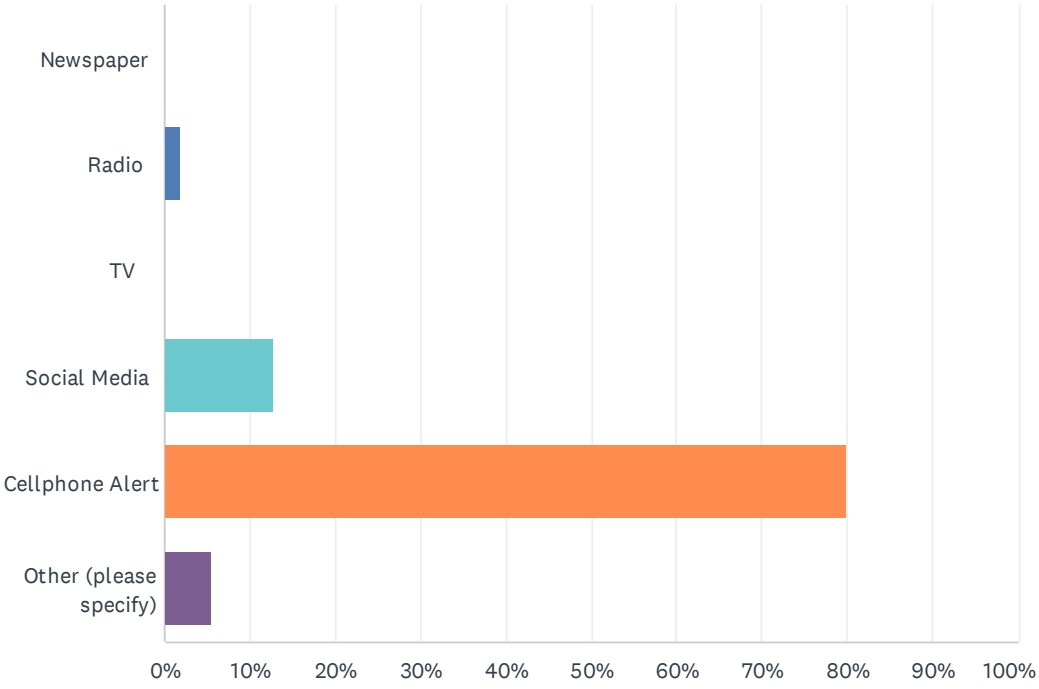
Answered: 55 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	47.27%	26
No	52.73%	29
TOTAL		55

Q8 What is the most effective way for your community to alert/advise you during a hazard event?

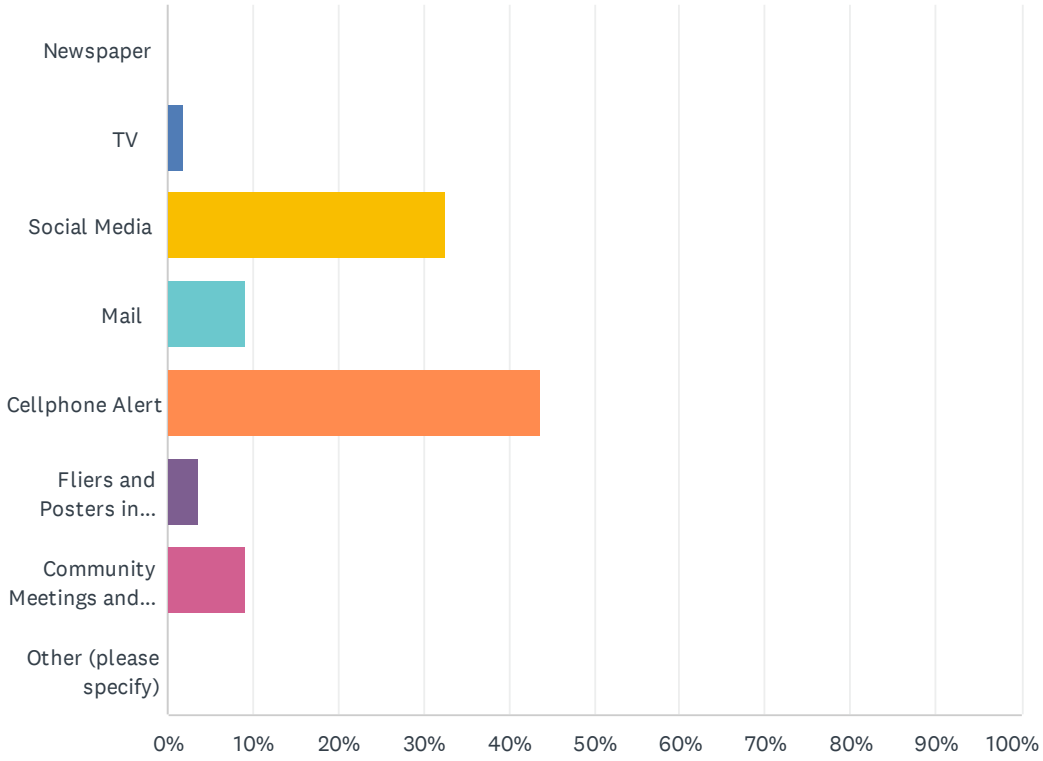
Answered: 55 Skipped: 1



ANSWER CHOICES	RESPONSES	
Newspaper	0.00%	0
Radio	1.82%	1
TV	0.00%	0
Social Media	12.73%	7
Cellphone Alert	80.00%	44
Other (please specify)	5.45%	3
TOTAL		55

Q9 What are the most effective ways for you to receive information about how to make your home and neighborhood more hazard resistant?

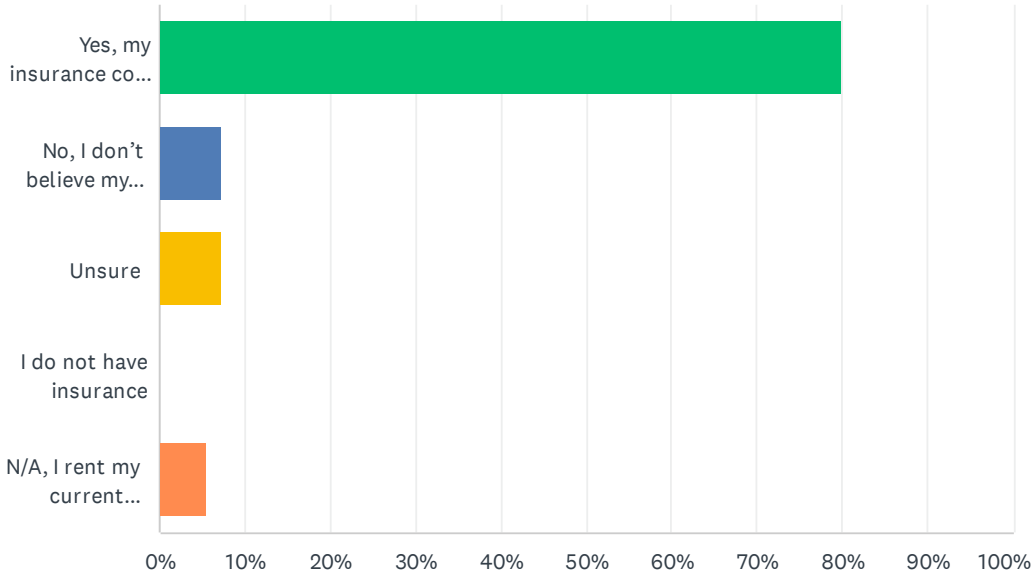
Answered: 55 Skipped: 1



ANSWER CHOICES	RESPONSES	
Newspaper	0.00%	0
TV	1.82%	1
Social Media	32.73%	18
Mail	9.09%	5
Cellphone Alert	43.64%	24
Fliers and Posters in Public Locations	3.64%	2
Community Meetings and Events	9.09%	5
Other (please specify)	0.00%	0
TOTAL		55

Q10 If you are a homeowner, do you have adequate basic homeowner's insurance to cover the hazards that could impact your home?

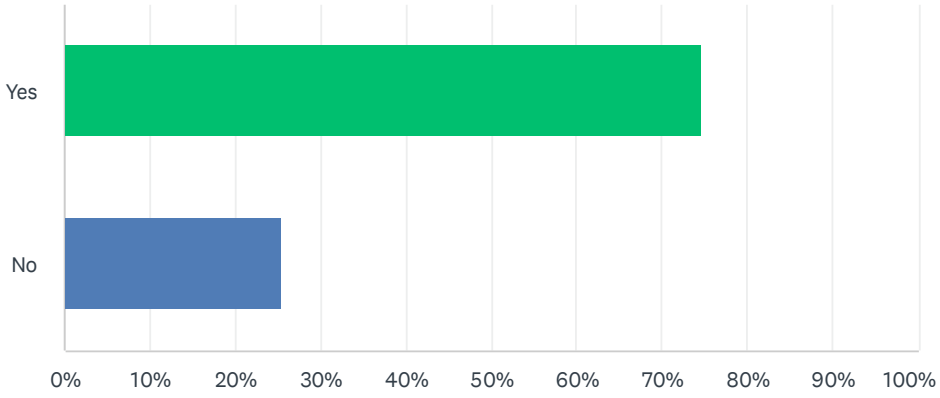
Answered: 55 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes, my insurance cover should be adequate	80.00%	44
No, I don't believe my insurance coverage would be adequate	7.27%	4
Unsure	7.27%	4
I do not have insurance	0.00%	0
N/A, I rent my current residence	5.45%	3
TOTAL		55

Q11 Do you know that most homeowner insurance policies do not cover flooding or minor subsidence (sinkholes)?

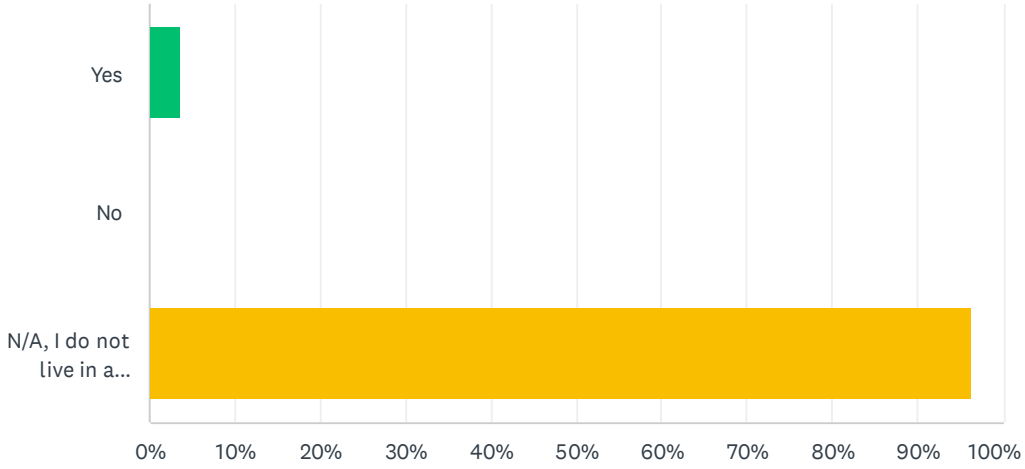
Answered: 55 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	74.55%	41
No	25.45%	14
TOTAL		55

Q12 If you live in a floodplain, do you carry flood insurance?

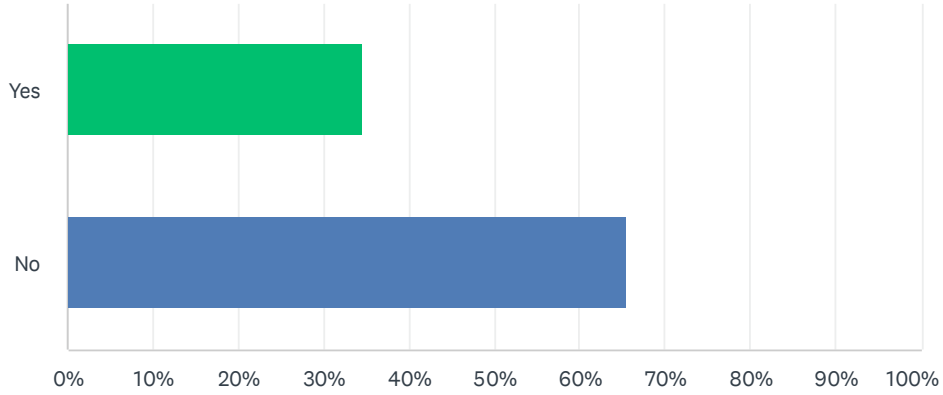
Answered: 55 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	3.64%	2
No	0.00%	0
N/A, I do not live in a floodplain	96.36%	53
TOTAL		55

Q13 Do you work in Jefferson County?

Answered: 55 Skipped: 1



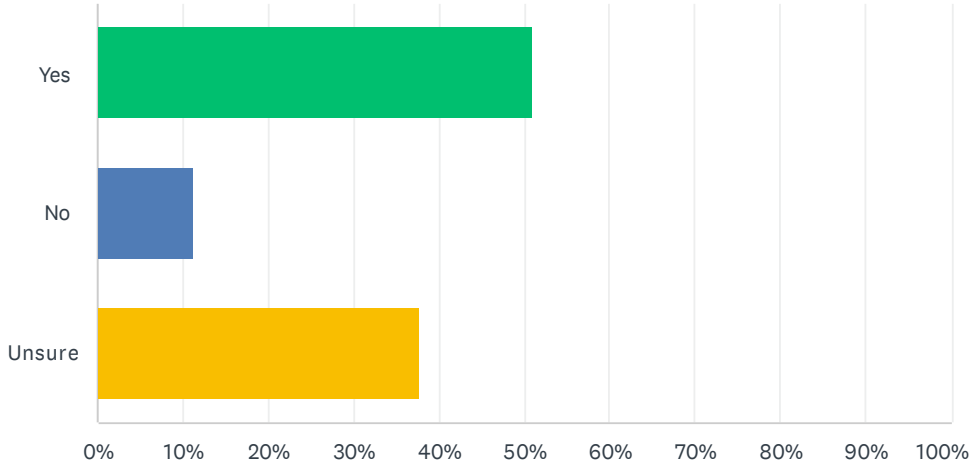
ANSWER CHOICES	RESPONSES	
Yes	34.55%	19
No	65.45%	36
TOTAL		55

Q14 Please provide the zip code of where you work.

Answered: 53 Skipped: 3

Q15 Does your employer have a plan for disaster recovery in place?

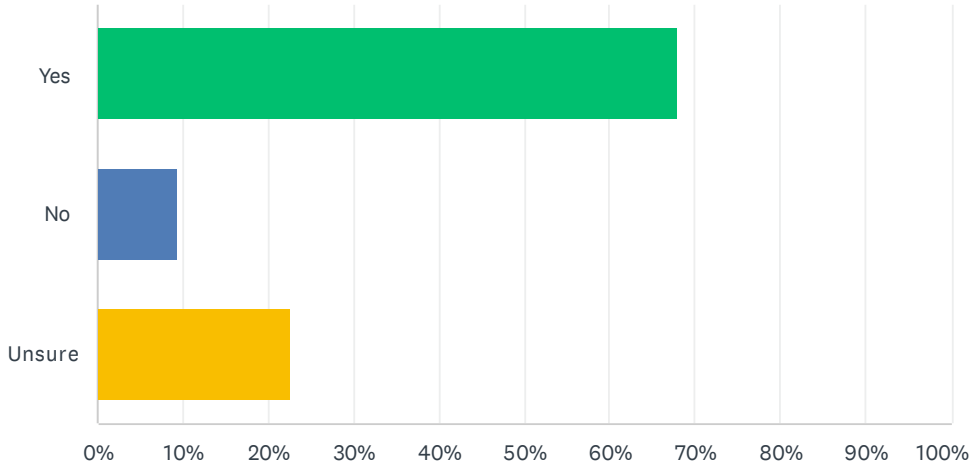
Answered: 53 Skipped: 3



ANSWER CHOICES	RESPONSES	
Yes	50.94%	27
No	11.32%	6
Unsure	37.74%	20
TOTAL		53

Q16 Does your employer have a means of getting in touch with you following a disaster?

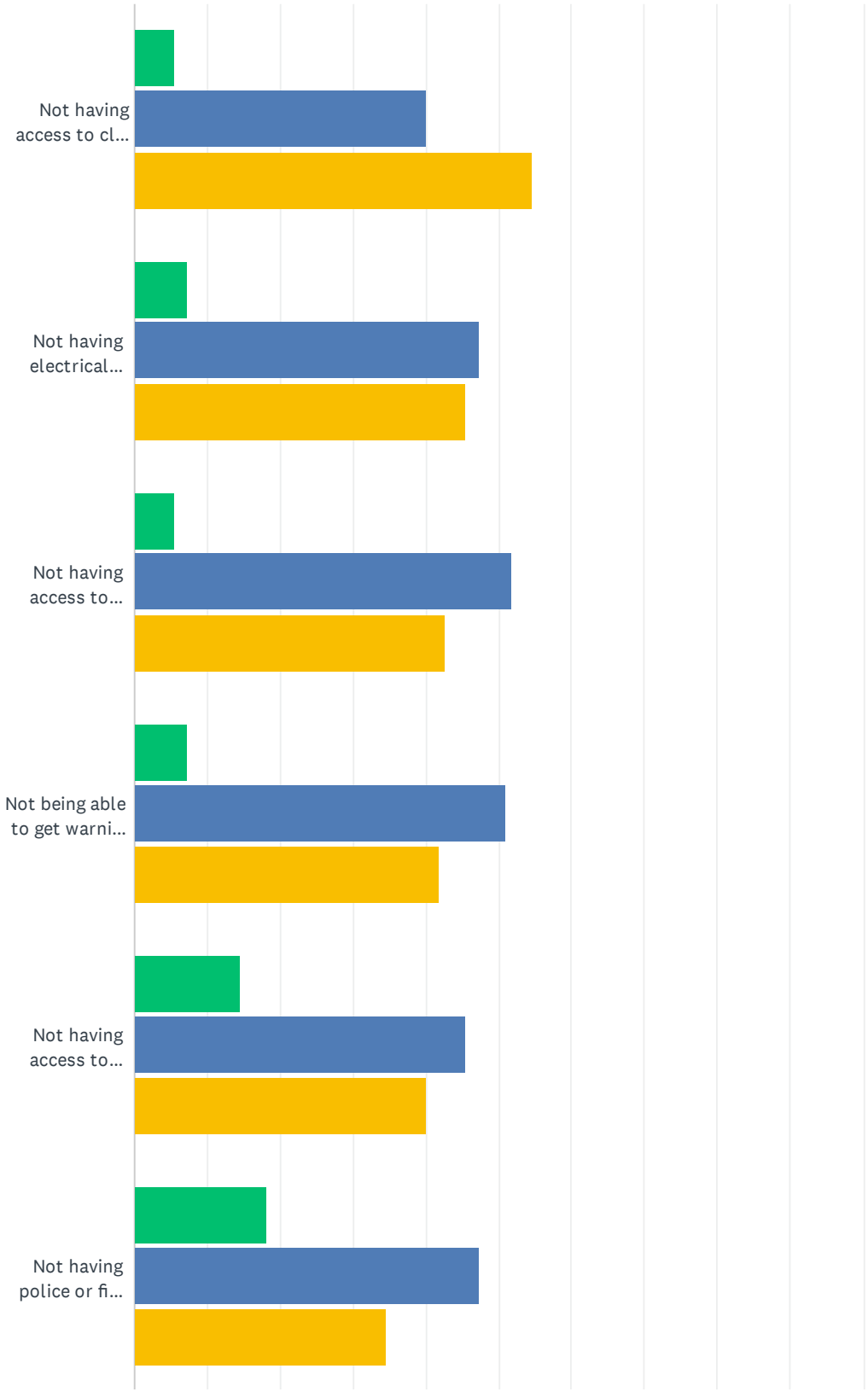
Answered: 53 Skipped: 3

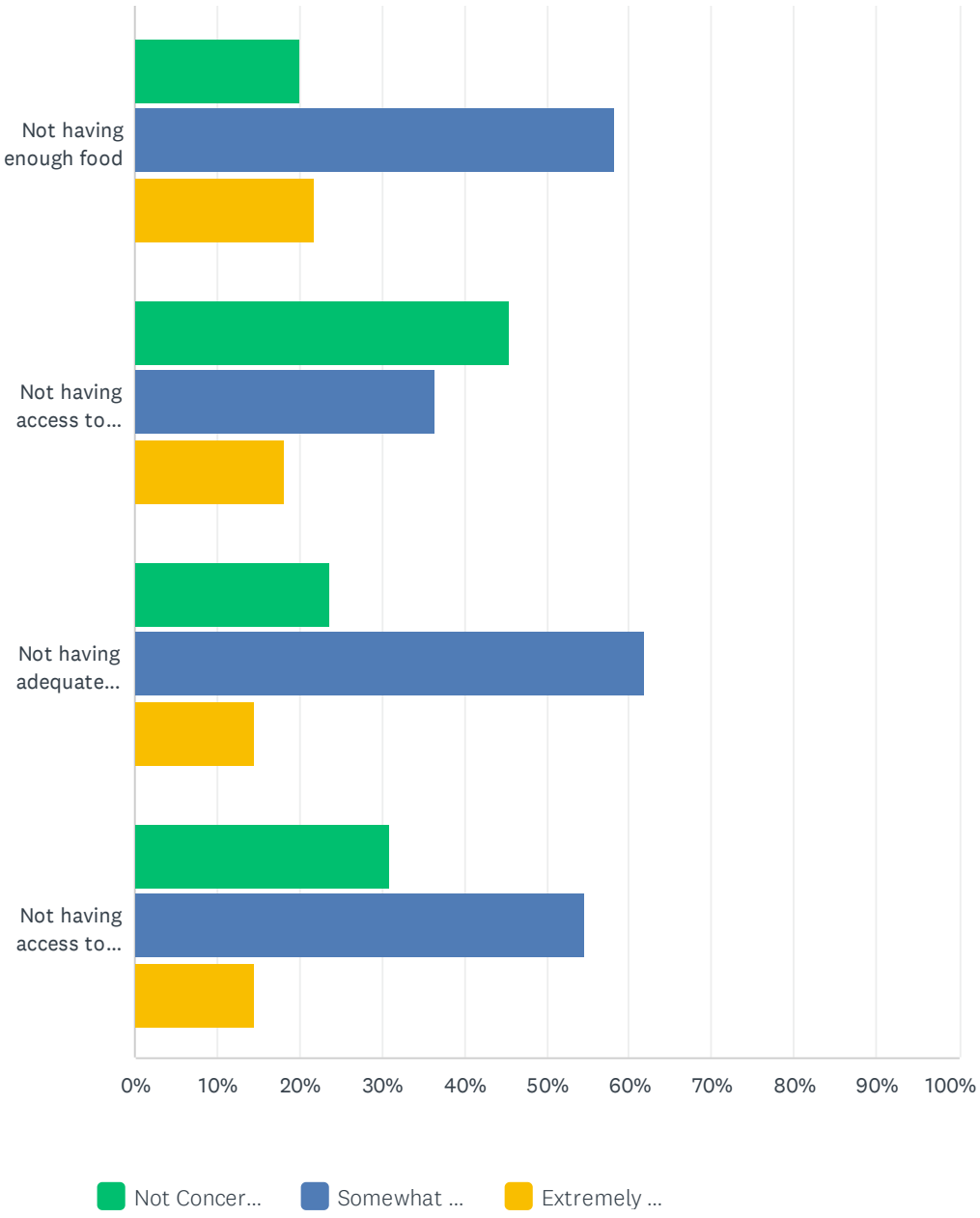


ANSWER CHOICES	RESPONSES	
Yes	67.92%	36
No	9.43%	5
Unsure	22.64%	12
TOTAL		53

Q17 How concerned are you about the following effects of natural hazards?

Answered: 55 Skipped: 1

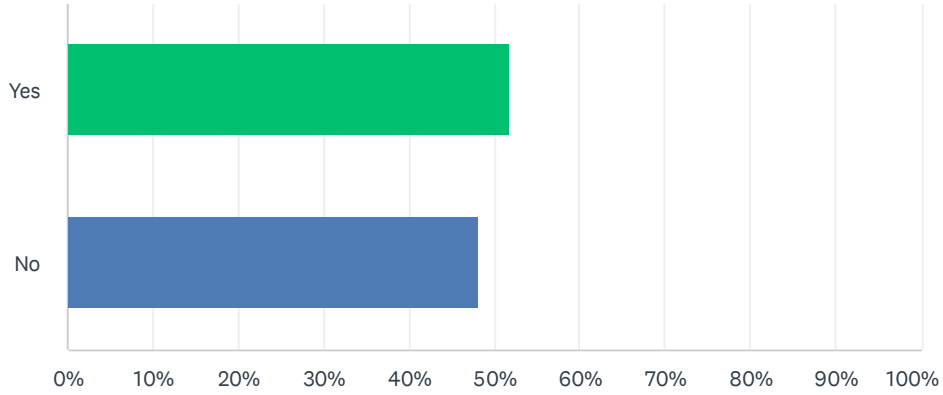



Not having enough food
Not having access to...
Not having adequate...
Not having access to...
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Not Concer...
Somewhat ...
Extremely ...

	NOT CONCERNED	SOMEWHAT CONCERNED	EXTREMELY CONCERNED	TOTAL
Not having access to clean water	5.45% 3	40.00% 22	54.55% 30	55
Not having electrical power for an extended time	7.27% 4	47.27% 26	45.45% 25	55
Not having access to medical services	5.56% 3	51.85% 28	42.59% 23	54
Not being able to get warning messages or other information regarding the hazard	7.27% 4	50.91% 28	41.82% 23	55
Not having access to required medicine	14.55% 8	45.45% 25	40.00% 22	55
Not having police or fire protection	18.18% 10	47.27% 26	34.55% 19	55
Not having enough food	20.00% 11	58.18% 32	21.82% 12	55
Not having access to transportation in the event ofevacuation	45.45% 25	36.36% 20	18.18% 10	55
Not having adequate shelter	23.64% 13	61.82% 34	14.55% 8	55
Not having access to community services	30.91% 17	54.55% 30	14.55% 8	55

Q18 Do you have an emergency/disaster response kit?

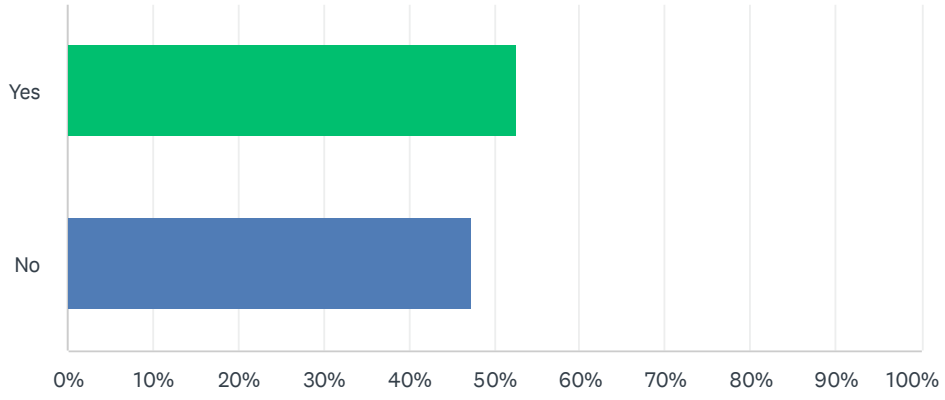
Answered: 54 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	51.85%	28
No	48.15%	26
TOTAL		54

Q19 Would you like information on how to assemble an emergency/disaster response kit?

Answered: 55 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	52.73%	29
No	47.27%	26
TOTAL		55

Q20 What is one action your community could take to reduce the long term impact of disasters to the community?

Answered: 41 Skipped: 15

Q21 Please provide us with any additional comments/suggestions that you have regarding natural disasters and the Hazard Mitigation Plan for Jefferson County.

Answered: 21 Skipped: 35

Appendix D-7: Radio Broadcast Notes – Panhandle News WEPM/WCST and Talk Radio WRNR

Jefferson County Office of Homeland Security and Emergency Management
Radio Interview Live Talk Show – June 21 & June 26

Steve: Introduction to Hazard Mitigaiton Plan

In May of 2023, Jefferson County began the process of drafting an update to the 2018 plan. This update includes revised profiles of identified natural and man-made hazards, the addition of newly identified regional hazards, newly identified mitigation strategies, as well as updates to hazards previously identified in the 2018 adopted plan.

Steve: Introduction of Mark James

Background on MBI staff and SPD – MBI Resiliency Hazard Mitigation Department Manager – over 15 years' experience working on FEMA National programs, local mitigation work in Region 3 (WV, V, MD, DE, PA, &DC) and SHMO. Partner with SPD lead by Virginia Smith - involvement in Western MD Planning for 2 decades.

1. **Why plan for Hazards** - Natural and man-made hazards are threats to public health and safety that may cause loss of property, and even loss of life. During a disaster, essential services including access to healthcare, fire protection/EMS, and public utilities may be interrupted or lost. The Hazard Mitigation Plan forms the foundation for Jefferson County and its municipalities' long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage – thus be more resilient.

   A hazard mitigation plan is maintained to serve as guide for emergency management professionals and community officials. It is a living document that should be reference on a regular basis.

   The purpose of a hazard mitigation plan is to:

   - increase awareness of threats and vulnerabilities
   - build partnerships for risk reduction
   - identify long-term strategy for risk reduction
   - align risk reduction with state and community objectives

   Most important, a County adopted plan is needed to receive post disaster FEMA Funds for mitigation projects and technical assistance programs.

2. **Elements of the Plan**
   - **Community Profile** – Set the Stage: Geography of the area / Community Facts / Demographics
   - **Planning Process** – Document participation, meetings and findings
   - (we are *here*) **Risk Assessment** – Profile hazards: Location & extent / Range and Magnitude / Past occurrences / Vulnerability Analysis
   - **Mitigation Strategy** – Where the rubber hits the Road: Establish Goals and develop mitigation actions (projects such as culvert replacements and stream restorations, roof retrofits to 911 centers)
   - **Plan Maintenance** – What are your next steps: Monitor / Incorporation into other Plans / Continued Public Involvement

Hazards that will be considered in the 2023 Plan

Natural Hazards

- Drought

- Earthquake
- Extreme Temperatures
- Flood
- Invasive Species
- Land Subsidence
- Landslide
- Public Health Crisis
- Severe Thunderstorm and Hail
- Severe Wind and Tornado
- Severe Winter Storm
- Wild and Urban Fires

Technical / Man Made Hazards

- Dam Failure
- Civil Disturbance
- Hazardous Materials
- Terrorism

New Hazards for 2023

- Karst / Sinkholes
- Cyber Terrorism
- Utility Interruption

3. **Participation in the Plan** – Over the past month we have invited over 80 participants from County and municipal governments, utility companies, and non-government agencies to serve on a Hazard Mitigaiton Committee that is responsible for driving the plan update process. The plan kickoff meeting was held on May 24, and our second meeting that will focus on identifying and prioritizing risks will be held at Hospice of the Panhandle on June 27 at 1PM. We invite you to participate in this and upcoming meetings that will be scheduled monthly. We are also planning a separate public meeting in August to review the final plan.

   If you are not able to make the in person meetings, we have issued an online public survey to collect your insight and perspective on hazards. The survey consists of 21 questions and will take an average of 8 minutes or less to complete. Receiving input from stakeholders and the public is extremely important and critical to the success of the plan.

   Review Surveymonkey

   - Brief section on demographics
   - Rate hazards on a 1-5 scale
   - Rating community's ability to respond
   - Identify effective ways to communicate hazards
   - Identify concerns associated with Disaster
   - Two open ended questions on ways that the County could do things better

   This is your opportunity to provide the County with details on areas in your community that experience impacts from hazards weather it be natural, or manmade.

Steve: Closing Remarks

To access to the plan, meeting material and public surveys, please visit the Jefferson County Homeland Security and Emergency Management website. All comments can be directed to The Jefferson County Office of Homeland Security and Emergency Management at jchsem@jeffersoncountywv.org.

Appendix D-8: JCHSEM Newsletters

Jefferson County Office of Homeland Security & Emergency Management
http://www.jeffersoncountywv.org/county-government/departments/homeland-security-and-emergency-management

July 2023

Jefferson County Commission

Steve Stolipher, President

Clare Ath, Vice President

Tricia Jackson

Jennifer Krouse

Jane M. Tabb

Jefferson County Office of Homeland Security and Emergency Management

John Sherwood, Chair, Chamber of Commerce Representative

Ed Smith, Vice Chair, Fire and Rescue Representative

Donald Grubb, Health Representative

Jesse Hott, Mass Care Representative

Paula Marrone-Reese, Non-Governmental Organization Representative

Mason Carter, Jefferson County Department of Engineering Representative

Jeffrey A. Polczynski, ENP, Jefferson County Emergency Communications Center Representative

Tricia Jackson, County Commission Representative

Kelly Parsons, Private Industry Representative

Thomas H. Hansen, Sheriff, Law Enforcement Representative

Thomas Butcher, Utilities Representative

Lyn Goodwin, Jefferson County Development Authority Representative

Holly Morgan Frye, Shepherd University, V. P. for Student Affairs, Education Representative

Sanford "Sandy" Green, Region 3 Homeland Security Area Liaison

JCOHSEM Staff

Stephen S. Allen, Director

Dick Myers, Deputy Director/ Planner/ Program Manager

VACANT, Administrative Assistant/Public Information Officer/ Volunteer Coordinator

From the Director's Chair

Hello and welcome to our July 2023 edition of the Jefferson County Office of Homeland Security and Emergency Management's (JCOHSEM) newsletter.

This newsletter contains information about various topics including this month's Ready.gov topics of Fireworks Safety, Extreme Heat Safety, and Summer Flooding.

We also continue to have updates on the 2023 Multi-Jurisdictional All Hazard Mitigation Planning Committee meetings.

We hope you find the topics in this month's edition informative and helpful.

Fireworks Safety

Every year, thousands of people are injured badly enough to require medical treatment after fireworks-related incidents, with many of the injuries to children and young adults. While the majority of these incidents are due to amateurs attempting to use professional-grade, homemade or other illegal fireworks or explosives, less powerful devices like small firecrackers and sparklers can also cause significant injuries. For more information, go to: Fireworks | CPSC.gov

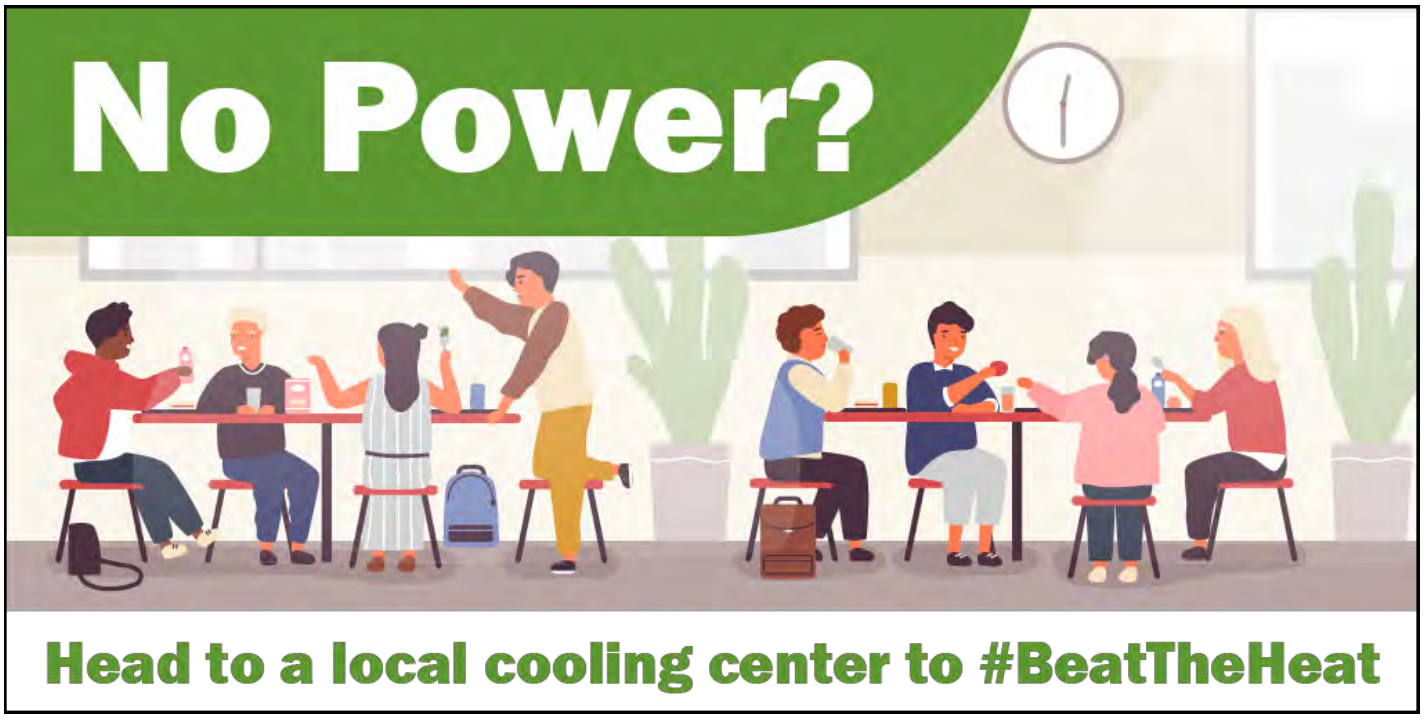
Extreme Heat

There is hot, and then there is hot! Extreme heat is a period of high heat and humidity with temperatures above 90 degrees for at least two to three days. In extreme heat your body works extra hard to maintain a normal temperature, which can lead to death. Extreme heat is responsible for the highest number of annual deaths among all weather-related hazards.

- Older adults, children and sick or overweight individuals are at greater risk from extreme heat.
- Humidity increases the feeling of heat.

Prepare for Extreme Heat

- Learn to recognize the signs of heat illness.
- Do not rely on a fan as your primary cooling device. Fans create air flow and a false sense of comfort, but do not reduce body temperature or prevent heat-related illnesses.
- Identify places in your community where you can go to get cool such as libraries and shopping malls or contact your local health department to find a cooling center in your area.
- Cover windows with drapes or shades.
- Weather-strip doors and windows.
- Use window reflectors specifically designed to reflect heat back outside.
- Add insulation to keep the heat out.
- Use a powered attic ventilator, or attic fan, to regulate the heat level of a building's attic by clearing out hot air.
- Install window air conditioners and insulate around them.
- If you are unable to afford your cooling costs, weatherization or energy-related home repairs, contact the Low Income Home Energy Assistance Program (LIHEAP) for help.



Extreme Heat (Cont'd)

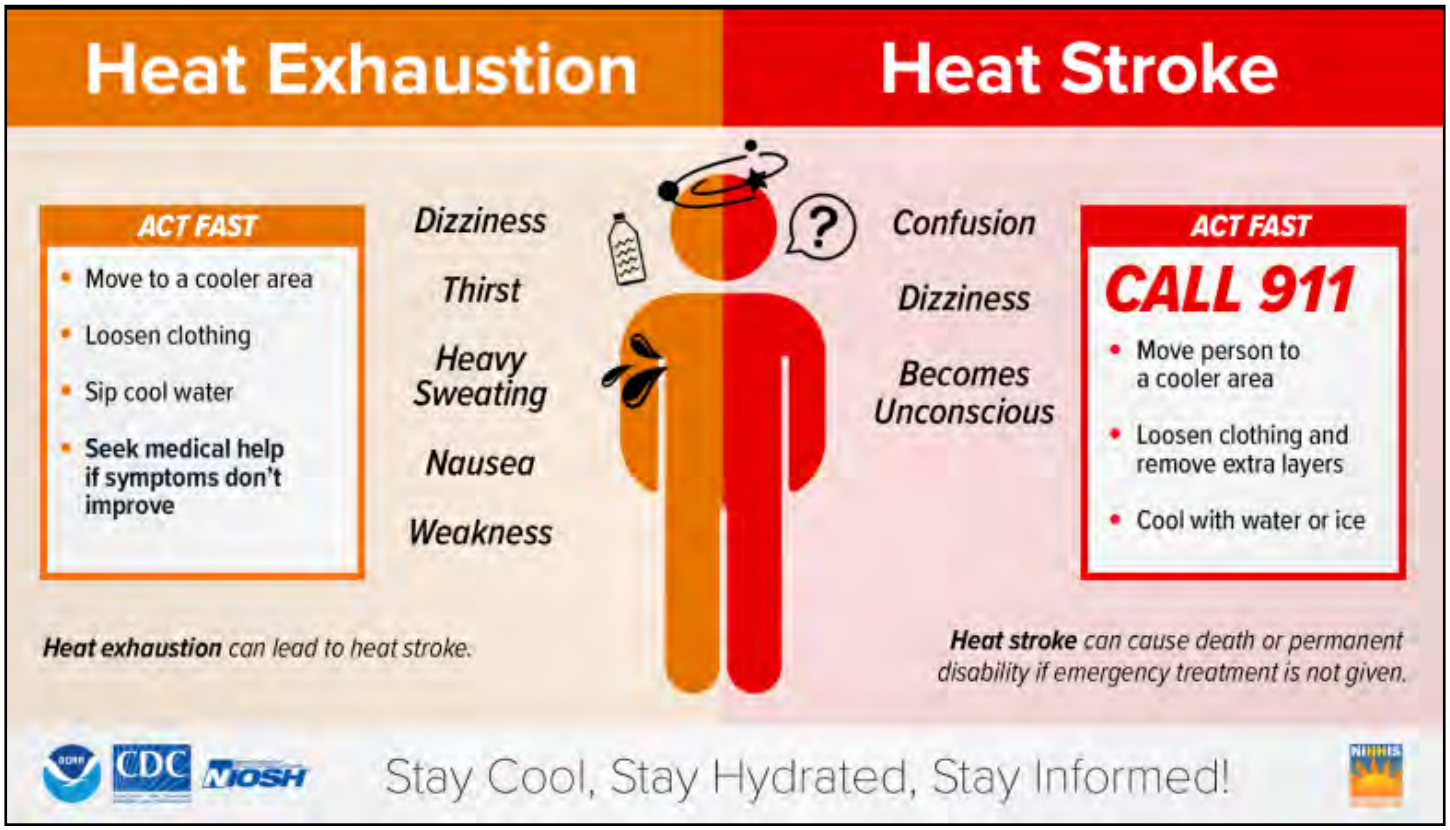
During

- Never leave people or pets in a closed car on a warm day.
- If air conditioning is not available in your home go to a cooling center.
- Take cool showers or baths.
- Wear loose, lightweight, light-colored clothing.
- Use your oven less to help reduce the temperature in your home.
- If you're outside, find shade. Wear a hat wide enough to protect your face.
- Drink plenty of fluids to stay hydrated.
- Avoid high-energy activities or work outdoors, during midday heat, if possible.
- Check on family members, seniors and neighbors.
- Watch for heat cramps, heat exhaustion and heat stroke.
- Consider pet safety. If they are outside, make sure they have plenty of cool water and access to comfortable shade. Asphalt and dark pavement can be very hot to your pet's feet.

Heat-Related Illnesses

Know the signs of heat-related illnesses and ways to respond. If you are sick and need medical attention, contact your healthcare provider for advice and shelter in place if you can. If you are experiencing a medical emergency call 9-1-1.

Get more detailed information about heat-related illnesses from the CDC and National Weather Service.



Extreme Heat

Heat-Related Illnesses (cont'd)

HEAT STROKE

- **Signs:**

- Extremely high body temperature (above 103 degrees F) taken orally
- Red, hot and dry skin with no sweat
- Rapid, strong pulse
- Dizziness, confusion or unconsciousness

If you suspect heat stroke, call 9-1-1 or get the person to a hospital immediately. Cool down with whatever methods are available until medical help arrives. Do not give the person anything to drink.

HEAT CRAMPS

- **Signs:**

- Muscle pains or spasms in the stomach, arms or legs

Extreme Heat

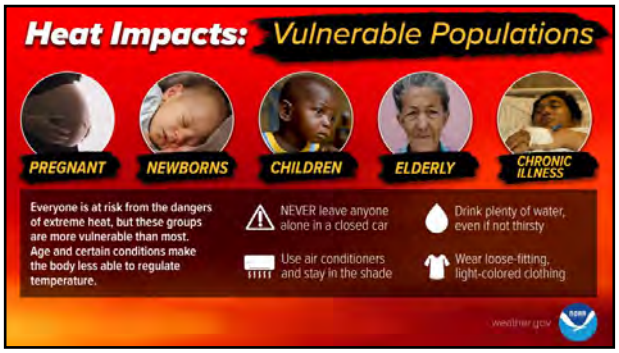
Heat-Related Illnesses (cont'd)

HEAT EXAUSTION

- **Signs:**

- Heavy sweating, paleness, muscle cramps, tiredness, weakness, fast or weak pulse, dizziness, headache, fainting, nausea, vomiting.

If you have signs of heat cramps or heat exhaustion, go to a cooler location and cool down by removing excess clothing and taking sips of sports drinks or water. Call your healthcare provider if symptoms get worse or last more than an hour.



Associated Content

Extreme Heat Information Sheet (PDF)

Children, Pets and Vehicles (weather.gov)

You Can Help Prevent Hot Car Deaths (NHTSA)

Protective Actions Research for Extreme Heat

National Weather Service - Heat Illnesses

National Weather Service Heat Safety Tips and Resources

Centers for Disease Control and Prevention: Extreme Heat

Warning Signs and Symptoms of Heat-Related Illness

National Integrated Heat Health Information System

SUMMER FLOODS

Flooding is a temporary overflow of water onto land that is normally dry. Floods are the most common natural disaster in the United States. Failing to evacuate flooded areas or entering flood waters can lead to injury or death.

Floods may:

- Result from rain, snow, coastal storms, storm surges and overflows of dams and other water systems.
- Develop slowly or quickly. Flash floods can come with no warning.
- Cause outages, disrupt transportation, damage buildings and create landslides.

If you are under a flood warning:

- Find safe shelter right away.
- Do not walk, swim or drive through flood waters**. Turn Around, Don't Drown!**
- Remember, just six inches of moving water can knock you down, and one foot of moving water can sweep your vehicle away.
- Stay off bridges over fast-moving water.

Depending on the type of flooding:

- Evacuate if told to do so.
- Move to higher ground or a higher floor.

- Stay where you are.

Preparing for a Flood

Know Your Risk for Floods
Visit FEMA's Flood Map Service Center to know types of flood risk in your area. Sign up for your community's warning system. The Emergency Alert System (EAS) and National Oceanic and Atmospheric Administration (NOAA) Weather Radio also provide emergency alerts.

Purchase Flood Insurance
Purchase or renew a flood insurance policy. Homeowner's insurance policies do not cover flooding. It typically takes up to 30 days for a policy to go into effect so the time to buy is well before a disaster. Get flood coverage under the National Flood Insurance Program (NFIP).

SUMMER FLOODS (cont'd)

Don't Let Flooding be an Unexpected Guest—Be Prepared with Flood Insurance

What if we told you that homeowner's insurance does not cover flood insurance? Homeowners may not know that homeowner's insurance does not cover flooding, purchasing a flood insurance policy can offset the costs of repair due to flooding.

An unexpected guest showing up on your doorstep is always a shock—even more so if that guest is flooding.

Every year, more homes and businesses experience flooding due to rising river levels. Riverine flooding is when the water from streams and rivers rises over its banks and spills out into nearby low-lying land—putting inland communities, including cities, at risk. This type of flooding is especially a risk as weather gets warmer due to the combination of increased rainfall and snowmelt.

FEMA offers flood insurance through the National Flood Insurance Program (NFIP). Individuals can visit www.floodsmart.gov to learn more about the risks of riverine flooding, how flood insurance can offer financial protection and how to find a flood insurance agent. Combining flood insurance with low/no cost mitigation tactics, such as elevating utilities and safely storing important documents, will give you an advantage to protect you and your property from potential flooding during the spring riverine flooding season. It is crucial to be prepared, no matter if you're near or far from a river.

Visit floodsmart.gov/rivers to learn more about the risks of riverine flooding, how to assess your flood risk, learn about flooding damage mitigation and find resources to share among your community.

Buy flood insurance and give yourself the peace of mind you need to protect your home or business. Visit www.floodsmart.gov and find an agent today.

Preparing for a Flood (cont'd)

Make a plan for your household, including your pets, so that you and your family know what to do, where to go, and what you will need to protect yourselves from flooding. Learn and practice evacuation routes, shelter plans, and flash flood response. Gather supplies, including non-perishable foods, cleaning supplies, and water for several days, in case you must leave immediately or if services are cut off in your area.

In Case of Emergency

Keep important documents in a waterproof container. Create password-protected digital copies. Protect your property. Move valuables to higher levels. Declutter drains and gutters. Install check valves. Consider a sump pump with a battery.

SUMMER FLOODS (cont'd)

Staying Safe During a Flood

- Evacuate immediately, if told to evacuate. Never drive around barricades. Local responders use them to safely direct traffic out of flooded areas.
- Contact your healthcare provider If you are sick and need medical attention. Wait for further care instructions and shelter in place, if possible. If you are experiencing a medical emergency, call 9-1-1.
- Listen to EAS, NOAA Weather Radio or local alerting systems for current emergency information and instructions regarding flooding.
- Do not walk, swim or drive through flood waters. **Turn Around. Don't Drown!**
- Stay off bridges over fast-moving water. Fast-moving water can wash bridges away without warning.
- Stay inside your car if it is trapped in rapidly moving water. Get on the roof if water is rising inside the car.
- Get to the highest level if trapped in a building. Only get on the roof if necessary and once there signal for help. Do not climb into a closed attic to avoid getting trapped by rising floodwater.

Staying Safe After a Flood

- Pay attention to authorities for information and instructions. Return home only when authorities say it is safe.
- Avoid driving except in emergencies.

Wear heavy work gloves, protective clothing and boots during clean up and use appropriate face coverings or masks if cleaning mold or other debris.

People with asthma and other lung conditions and/or immune suppression should not enter buildings with indoor water leaks or mold growth that can be seen or smelled. Children should not take part in disaster cleanup work.

- Be aware that snakes and other animals may be in your house.

- Be aware of the risk of electrocution. Do not touch electrical equipment if it is wet or if you are standing in water. Turn off the electricity to prevent electric shock if it is safe to do so.

- Avoid wading in floodwater, which can be contaminated and contain dangerous debris. Underground or downed power lines can also electrically charge the water.

Use a generator or other gasoline-powered machinery ONLY outdoors and away from windows.

SUMMER FLOODS (cont'd)

Associated Content

- Flood Information Sheet (PDF)
- Protective Actions Research for Flood
- National Flood Insurance Program (NFIP)
- Flood Safety Social Media Toolkit
- National Weather Service Weather Ready Nation Spring Safety Outreach Materials
- Flood Insurance Facts
- Six Things to Know Before a Disaster (Video)
- When the Cloud Forms (Video)
- How to Prepare for a Flood File A Flood Insurance Claim
- Your Homeowners Insurance Does Not Cover Flood (PDF)
- American Red Cross

Jefferson County 2023 Multi-Jurisdictional All Hazard Mitigation Plan Update

Natural and man-made hazards may cause loss of life, property loss, and threats to public health and safety. During a disaster event, essential services including access to healthcare, fire/EMS, utilities, etc., may be affected. A hazard mitigation plan is maintained to serve as guidance to emergency management professionals.

The purpose of a hazard mitigation plan is to:
(1) Increase awareness around threats and vulnerabilities;
(2) Build partnerships for risk reduction;
(3) Identify long-term strategies for risk reduction;
(4) Align risk reduction with state and community objectives; and
(5) Identify approaches that focus resources on greatest risk and vulnerability.

Work done to date
Jefferson County OHSEM hosted an Internal Planning Team kick-off meeting on May 5, 2023. During this meeting, the team reviewed the Hazard Mitigation Planning process, as well as changes to the planning process promoted by FEMA's release of updated planning guidance. Additionally, the team discussed scheduling of HMC meetings and public outreach options.

The Hazard Mitigation Committee Kick-Off Meeting was held on May 24, from 2:30 – 4:00PM in person and virtually at the Hospice of the Panhandle 330 Hospice Ln, Kearneysville, WV. Invitations were sent to each municipality, county departments and community stakeholders. During this meeting the Planning Team introduced the project to local municipality representatives and community agency representatives. This included informing them of the plan update process, schedule, and the evaluation of hazards and risks within the county. Meeting attendees were asked to fill out a hazard identification & risk assessment worksheet, a community capacity assessment worksheet, and a third worksheet that addressed equity and social vulnerability.

- Work on the production of the plan has been ongoing and the following sections are either complete or are near completion, and needing a quality control review: Introduction, and Community Profile.
- Documentation of the Planning Process is also ongoing and the planning team has documented the steps that were taken to finalize the membership of the Hazard Mitigation Committee and document committee meetings that have been held to date.
- Work on the Risk Assessment Section has also begun, drafts have been completed for the Flood, Dam, Earthquake, and Hazardous Material hazards.
- Substantial progress has also been made on the following hazards: Drought, Extreme Temperatures, Invasive Species, Land Subsidence, Severe Thunderstorm & Hail, and Severe Winter Storms.

Work to be completed by next quarter
- Continue documenting the planning process and the results of the Risk Assessment meeting that scheduled for June 27.
- Continue work on updating natural and manmade hazards and finalize the Risk Assessment Section.
- Begin reviewing County and local jurisdiction plans that will provide information that will be applied to the Capability Assessment Section. Specific attention will be on existing and possible ways to integrate planning opportunities.
- Prepare for the third Hazard Mitigation Committee Meeting that will focus on mitigation strategies for July 26 at the Ranson Civic Center starting at 11AM.

Please Participate!

The **Hazard Mitigation Plan** forms the foundation for Jefferson County and its municipalities' long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage. The purpose of this plan is to identify, plan, and implement cost-effective hazard mitigation measures through a comprehensive approach known as hazard mitigation planning. The Federal Emergency Management Agency (FEMA) requires hazard mitigation plans to be updated every five years.

To that end, updates to the Jefferson County 2018 Hazard Mitigation Plan are underway. Jefferson County's Office Of Homeland Security and Emergency Management (JCOHSEM) is the lead agency for this plan effort. Therefore, JCOHSEM is seeking input on stakeholder's concerns regarding hazards. This survey is being used to collect your insight and perspective on hazards identified in the plan.

The survey consists of 21 questions and will take an average of 10 minutes or less to complete.

We thank you sincerely for your time.

SURVEY

Use the survey link or the QR Code!

https://www.surveymonkey.com/r/YFSNLX7

https://www.surveymonkey.com/r/YFSNLX7

Need Training?

Emergency management is a constantly-changing field. Whether it is keeping up with the latest technology, to working with stakeholders to develop plans, conducting successful floodplain management, performing damage assessments, managing debris after a disaster, helping our communities to recover, or just learning the fundamentals, there are plenty of options available to you. Here are some great opportunities for training that you may or may not know about.

State-Sponsored Training Courses

Course	Date/s	Location
• WV Air-Scent Canine Seminar	7/21-23/23	Braxton County
• ICS 300	7/25-27/23	Morgantown, WV
• Land Navigation w/Map, Compass, and Search Tech	7/28-30/23	Summersville, WV
• ICS 300	7/31-8/2/23	Beckley, WV
• MGT 417 Crisis Mgmt for School-Based Incidents	8/8-9/23	Braxton County
• AWR 392 FEMA Lifelines, Logistics, and Supply Chain	8/23/23	Charleston, WV

To register for the above courses, contact Brent Burger at brent.a.burger@wv.gov or phone number (304) 414-4605 Office or (304) 941-9532 Cell with any questions in regards to these courses.

Upcoming Local Training

Course	Date/s	Location
• Community CPR and Stop the Bleed	8/16/23	JCESA
• Community First Aid	8/23/23	JCESA
• Community CPR and Stop the Bleed	9/20/23	JCESA
• Community CPR and Stop the Bleed	10/18/23	JCESA
• Community First Aid	10/25/23	JCESA
• Community CPR and Stop the Bleed	11/15/23	JCESA
• Community CPR and Stop the Bleed	12/13/23	JCESA

All classes are being held at the Jefferson County Emergency Services Agency (JCESA) located at 419 Sixteenth Avenue, Ranson, WV 25438

FEMA On-line Training

FEMA offers a number of online courses at https://training.fema.gov/emi.aspx. From this training portal, anyone can take their online independent study courses for free. There are over a hundred courses to that are available. You can also browse the schedules and information about their on-campus resident courses for those who are involved in emergency management in the federal, state, local or tribal governments.

JCOHSEM recommends the following FEMA Independent Study Courses. These courses are free and available online. After the course is completed, an online test can be taken. Once the test is passed, you will receive a completion certificate.

IS-100: Introduction to the Incident Command System

Course Overview: ICS 100, Introduction to the Incident Command System, introduces the Incident Command System (ICS and provides the foundation for higher level ICS training. This course describes the history, features and principles, and organizational structure of the Incident Command System. It also explains the relationship between ICS and the National Incident Management System (NIMS).

Primary Audience: The target audience includes persons involved with emergency planning, and response or recovery efforts.

Course Length: 2 hours

Course Link: FEMA - Emergency Management Institute (EMI) Course | IS-100.C: Introduction to the Incident Command System, ICS 100

IS-908: Emergency Management for Senior Officials

- **Course Overview:** The purpose of this course is to introduce senior officials to the important role they play in emergency management. The responsibility for preparing for, responding to, and recovering from incidents, both natural and manmade, begins at the local level – with individuals and public officials in the county, city, or town affected by the incident. This course presents:

- Simple steps official can take to become acquainted with their emergency management role, authorities, and team members.

- Video presentations sharing lessons learned from officials of the City of Baton Rouge, East Baton Rouge Parish, Louisiana.

Primary Audience: Senior officials, including county commissioners, mayors, city managers, and county managers.

Course Length: 1 hour

Course Link: FEMA - Emergency Management Institute (EMI) Course | IS-908: Emergency Management for Senior Officials

Disaster Exercise Series 2023
Functional Exercise will be held in September

The “Grid Lock” Table Top exercise was held on Wednesday, May 10, 2023 in Jefferson County at the Ranson Civic Center. All 7 WV Homeland Security Region 3 (WV HSR3) counties plus Pendleton County met and set up their Emergency Operations Centers (EOCs) at various locations within the facility.

The scenario consisted of a group known as the Ministers of Death and Destruction (MODAD) has threatened to deploy MODAD soldiers to infiltrate the infrastructure of West Virginia. MODAD has issued an ultimatum to the Governor of the State of West Virginia and each of the County Commissioners listing their demands. The exercise included various emergency management agencies from the regions counties and municipalities and also included representatives from law enforcement, EMS, fire service, hazmat, hospitals, nursing homes, community agencies, and USEPA Region 3.

The Functional Exercise will be held on September 6. The location will be announced at a later date.

JCOHSEM Committees

Steering Committee, John Sherwood, Chair

The Steering Committee works with the JCOHSEM director to guide the activities of JCOHSEM. A fourteen-member Steering Committee is made up of public and private representation. JCOHSEM is a department within the Jefferson County Commission, who has overall responsibility for the department and its employees. The Jefferson County Commission appoints all members to the steering committee. This committee meets following the Local Emergency Planning Committee (LEPC) Meetings held on the third Wednesday of February, April, June, August, October, and December. Please call the office for exact dates, locations, and times.

Public Awareness, Education and Training Committee, Paula Marrone-Reese, Chair

Any interested person can serve on this committee. The Public Awareness, Education and Training Committee is responsible to communicate the organization's activities to the public and to build support for JCOHSEM's programs. They work with the director and other staff to keep the entire community focused on the objectives of JCOHSEM, the opportunities for additional involvement and support by updating citizens and businesses about what the partners are doing and how the community will and is benefiting from these efforts. This
committee is responsible in assisting the director in setting up speaking engagements and public awareness events. This committee meets monthly on the second Wednesday of the month at 0830 in the EOC at 28 Industrial Blvd., Kearneysville, unless otherwise announced.

All Hazards Mitigation Planning Committee, Mason Carter, Chair

Any interested person may serve on this committee. The All Hazards Mitigation Planning Committee examines the community's risks and vulnerability to all hazards and assess the community's vulnerability to those risks. An All Hazards Mitigation Plan was completed and adopted by the Jefferson County Commission, all Jefferson County municipalities, the West Virginia Emergency Management Division of the West Virginia Department of Homeland Security (WVEMD) and FEMA in July 2003. The plan was updated in 2008 and 2013. The 2013 plan was approved by WVEMD and FEMA in June 2013 and the 2018 plan was approved in November 2018. We are in the process of updating the plan at this time.

Counter Terrorism Committee, Stephen Allen, Chair

Membership to this sub-committee of the Risk Assessment and Mitigation Planning Committee is limited to members of law enforcement, emergency management, homeland security, emergency communications, Red Cross, schools, health care, fire companies, ambulance authority/EMS, and government, due to sensitive homeland security issues. The committee works on issues of planning and training for counterterrorism or human-caused disasters. Meetings are held on the second Tuesday of the month at the EOC at 28 Industrial Blvd., Kearneysville, unless otherwise announced.

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If you have questions, call the JCOHSEM office at (304) 728-3290.

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PUBLIC SAFETY; PUBLIC TRUST

The Jefferson County Commission's Office of Homeland Security and Emergency Management (JCOHSEM) is responsible for the coordination of preparedness, response, recovery, and mitigation of disasters and large emergencies in Jefferson County, West Virginia. Volunteer and community participation is encouraged and welcomed. We currently have committees on All Hazards Mitigation Planning; Public Awareness, Education and Training; Counter Terrorism; and a Steering Committee that acts as an advisory group.

We are responsible for the Citizen Corps/ CERT, StormReady, Community Rating System, Resilient Neighbor Network and Project Impact programs. JCOHSEM is also responsible for the Jefferson County R.A.C.E.S. group.

July 2023 Meetings & Events

- National Weather Service - Sterling calls, every Monday and Thursday -10:30AM
- WV State weather calls, on Mondays and Fridays—10AM
- WV Emergency Management Council calls each Tuesday - 9AM
- July 3/4 - Independence Day State/County holiday - Office closed
- July 6 - Hazard Mitigation bi-weekly meeting 11AM - on-line
- July 6 - Monthly AARL Amateur Radio Emergency Network Testing - 6PM
- July 20 - Hazard Mitigation bi-weekly meeting 11AM - on-line
- July 26 - Monthly HazMit Planning Team meeting - Ranson Civic Center - 11AM-3PM

Jefferson County Office of Homeland Security & Emergency Management
http://www.jeffersoncountywv.org/county-government/departments/homeland-security-and-emergency-management

September 2023

Jefferson County Commission

Steve Stolipher, President

Vacant, Vice President

Tricia Jackson

Jennifer Krouse

Jane M. Tabb

Jefferson County Office of Homeland Security and Emergency Management

John Sherwood, Chair, Chamber of Commerce Representative

Ed Smith, Vice Chair, Fire and Rescue Representative

Donald Grubb, Health Representative

Jesse Hott, Mass Care Representative

Paula Marrone-Reese, Non-Governmental Organization Representative

Mason Carter, Jefferson County Department of Engineering Representative

Jeffrey A. Polczynski, ENP, Jefferson County Emergency Communications Center Representative

Tricia Jackson, County Commission Representative

Kelly Parsons, Private Industry Representative

Thomas H. Hansen, Sheriff, Law Enforcement Representative

Thomas Butcher, Utilities Representative

Lyn Goodwin, Jefferson County Development Authority Representative

Holly Morgan Frye, Shepherd University, V. P. for Student Affairs, Education Representative

Sanford "Sandy" Green, Region 3 Homeland Security Area Liaison

JCOHSEM Staff

Stephen S. Allen, Director

Dick Myers, Deputy Director/ Planner/ Program Manager

VACANT, Administrative Assistant/Public Information Officer/ Volunteer Coordinator

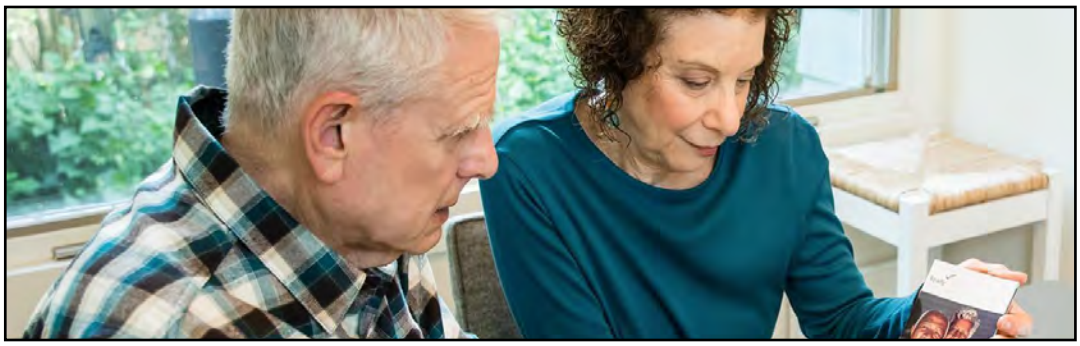
From the Director's Chair

Hello and welcome to our September 2023 edition of the Jefferson County Office of Homeland Security and Emergency Management's (JCOHSEM) newsletter.

This newsletter contains information about various topics including this month's theme: National Preparedness Month.

We also continue to have updates on the 2023 Multi-Jurisdictional All Hazard Mitigation Planning Committee meetings, the Jefferson County Fair, and the upcoming "GridLock" regional exercise.

We hope you find the topics in this month's edition informative and helpful.



National Preparedness Month

Take Control in 1, 2, 3

The Ready Campaign's 2023 National Preparedness Month theme is "Take Control in 1, 2, 3". The campaign's focus is on preparing older adults for disasters, specifically older adults from communities that are disproportionally impacted by the all-hazard events, which continue to threaten the nation.

We know older adults can face greater risks when it comes to the multitude of extreme weather events and emergencies we now face, especially if they are living alone, are low-income, have a disability, or live in rural areas.

For more information, and to access the new webpage available in English and Spanish languages at Ready.gov/older-adults and Ready.gov/es/adultos-mayores. For more information on preparing with people with disabilities visit Ready.gov/disability or Ready.gov/es/discapacidad in Spanish.

Jefferson County Fair 2023

The 2023 Jefferson County Fair was a success! Each year JCOHSEM helps coordinate the volunteers to staff our Local Emergency Planning Committee (LEPC) booth. During this event we engaged the community in preparedness discussions and handed out preparedness materials and provided explanations of the Hazard Mitigation Plan Update and survey. Disaster preparedness is crucial in mitigating the effects and hazards disasters have on individuals, families, and our community. We thank all of our volunteer representative from the various disciplines in our Local Emergency Planning Committee for coming out to staff the booth this year. This year we had two giveaways, one was a cat bed donated by the Jefferson County Animal Welfare Society and the other prize was a “go” bag made up of first aid and safety equipment from our stock of supplies. The winners were Toni Milbourne and Denise Force.

Jefferson County 2023 Multi-Jurisdictional All Hazard Mitigation Plan Update

Natural and man-made hazards may cause loss of life, property loss, and threats to public health and safety. During a disaster event, essential services including access to healthcare, fire/EMS, utilities, etc., may be affected. A hazard mitigation plan is maintained to serve as guidance to emergency management professionals.

The purpose of a hazard mitigation plan is to:
(1) Increase awareness around threats and vulnerabilities;
(2) Build partnerships for risk reduction;
(3) Identify long-term strategies for risk reduction;
(4) Align risk reduction with state and community objectives; and
(5) Identify approaches that focus resources on greatest risk and vulnerability.

Third Hazard Mitigation Planning Committee Meeting (in person) - July 26 from 1PM to 4PM

The focus of this meeting was to have the committee members review and update plan goals, review mitigation actions and add new actions, and develop specific project sheets. Committee members were then asked to review the 2018 hazard mitigation plan goals. The groups were instructed to keep remove or modify existing goals and add new goals.

2023 Hazard Mitigation Plan Goals:

GOAL 1: Improve communication resiliency through planning, partnerships, and infrastructure development.

GOAL 2: Enhance resiliency of county and municipal water resources to reduce flood damage by limiting development in floodplains, effectively managing stormwater, and reducing the possibility of source water contamination.

GOAL 3: Promote all-hazards preparedness, awareness, education, and training to the public, responders, and officials.

GOAL 4: Reduce the vulnerability of populations by creating and integrating programs and projects that are designed to reduce hazards in risk areas.

GOAL 5: Promote hazard mitigation as a local community value in recognition of its importance to the health, safety, and welfare of the population

GOAL 6: Improve operating systems and backup servers to enhance cyber security measures.

GOAL 7: Enhance hazardous materials response planning and response operations.

A total of seventy three (73) mitigation action from the 2018 plan were evaluated during this workshop. Committee members had the opportunity to review each action and determine if it should be carried over into the 2023 plan. Committee members reported top action items and whether or not they added any new mitigation projects. Fourteen (14) new action items were developed during the workshop.

Following the workshop, an online prioritization survey was provided to HMPC members to determine “high”, “medium”, and “low” priority projects. Results of this survey indicated six “high” priority mitigation projects. High priority projects include the following:

Project 4: Snow Removal MOU and Debris Management Plan

Project 5: Dark Grid Training & Exercises

Project 13: Citizen Preparedness Training and Outreach

Project 14: Hazard Materials Response Plan and Training

Draft Plan Review & Public Open House - August 29 from 1PM to 5PM

The purpose of this final HMPC meeting was to provide general findings in the Jefferson County draft plan. The meeting was an open house format where committee members were provided a briefing on the results of the mitigation strategy workshop for both County-wide projects and municipal specific priority projects. Results of the public survey were presented and compared to how committee members rated hazards and capabilities. During the meeting committee members were able reviewed an electronic copy of the draft plan and a question-and-answer period was used to gain feedback on plan details, process and next steps.

The committee determined that a 2-week review period should be allowed for members to provide comment and feedback on the final draft plan. A draft version of the plan will be circulated to committee members during the first week of September and comments collected and discussed on a September 18 virtual meeting. The meeting space was then opened to the public for a 3-hour period, during which a running slide show summarizing the elements of the plan, committee meetings and results of the plan played and large hazard maps were displayed for the public to view.

Public input was also solicited through an online **hazard mitigation survey** composed by Jefferson County and disseminated on Jefferson County agency websites. The survey collected demographic data of respondents, had respondents assess hazard risks, asked for mitigation action ideas, and gauged respondents’ participation in public hazard mitigation efforts. About 56 residents participated, a large increase from the 2018 survey. Participants were most concerned about utility interruption, hazardous materials, and severe thunderstorms. Hazards that were rated as lowest concern included landslide, dam failure, and earthquake. Most participants felt that their county and municipality ability to handle a hazard event was average. Overall, residents agreed that cell phone alerts are the most effective way for the community to alert and advise them during a hazard event.

Participants were most concerned with not having access to clean water, not having electrical power for extended time, not having police or fire protection, not having access to medical services and required medicine, and not being able to get warning messages or other information regarding the hazard.

Need Training?

Emergency management is a constantly-changing field. Whether it is keeping up with the latest technology, to working with stakeholders to develop plans, conducting successful floodplain management, performing damage assessments, managing debris after a disaster, helping our communities to recover, or just learning the fundamentals, there are plenty of options available to you. Here are some great opportunities for training that you may or may not know about.

State-Sponsored Training Courses

Course	Date/s	Location
• Pipeline Security for Rural Communities	9/8	Charleston, WV
• Railcar Incident Response for Flammable liquids	9/9-10	Charleston, WV
• Pipeline Security for Rural Communities	9/21	Martinsburg, WV
• Railcar Incident Response for Flammable Liquids	9/22-23	Martinsburg, WV
• PER 340 Active Threat Integrated Response	9/26-28	Charleston, WV
• Pipeline Security for Rural Communities	9/28	Princeton, WV
• Railcar Incident Response for Flammable Liquids	9/29-30	Princeton, WV

To register for the above courses, contact Brent Burger at brent.a.burger@wv.gov or phone number (304) 414-4605 Office or (304) 941-9532 Cell with any questions in regards to these courses.

Upcoming Local Training

Course	Date/s	Location
• Community CPR and Stop the Bleed	9/20/23	JCESA
• Community CPR and Stop the Bleed	10/18/23	JCESA
• Community First Aid	10/25/23	JCESA
• Community CPR and Stop the Bleed	11/15/23	JCESA
• Community CPR and Stop the Bleed	12/13/23	JCESA

All classes are being held at the Jefferson County Emergency Services Agency (JCESA) located at 419 Sixteenth Avenue, Ranson, WV 25438

FEMA On-line Training

FEMA offers a number of online courses at https://training.fema.gov/emi.aspx. From this training portal, anyone can take their online independent study courses for free. There are over a hundred courses to that are available. You can also browse the schedules and information about their on-campus resident courses for those who are involved in emergency management in the federal, state, local or tribal governments.

JCOHSEM recommends the following FEMA Independent Study Courses. These courses are free and available online. After the course is completed, an online test can be taken. Once the test is passed, you will receive a completion certificate.

IS-100: Introduction to the Incident Command System

Course Overview: ICS 100, Introduction to the Incident Command System, introduces the Incident Command System (ICS and provides the foundation for higher level ICS training. This course describes the history, features and principles, and organizational structure of the Incident Command System. It also explains the relationship between ICS and the National Incident Management System (NIMS).

Primary Audience: The target audience includes persons involved with emergency planning, and response or recovery efforts.

Course Length: 2 hours

Course Link: FEMA - Emergency Management Institute (EMI) Course | IS-100.C: Introduction to the Incident Command System, ICS 100

IS-908: Emergency Management for Senior Officials

- **Course Overview:** The purpose of this course is to introduce senior officials to the important role they play in emergency management. The responsibility for preparing for, responding to, and recovering from incidents, both natural and manmade, begins at the local level – with individuals and public officials in the county, city, or town affected by the incident. This course presents:

- Simple steps official can take to become acquainted with their emergency management role, authorities, and team members.
- Video presentations sharing lessons learned from officials of the City of Baton Rouge, East Baton Rouge Parish, Louisiana.

Primary Audience: Senior officials, including county commissioners, mayors, city managers, and county managers.

Course Length: 1 hour

Course Link: FEMA - Emergency Management Institute (EMI) Course | IS-908: Emergency Management for Senior Officials

Disaster Exercise Series 2023
Functional Exercise will be held September 6

The Functional Exercise will be held on Wednesday, 6 September 2023 9:00 AM - 3:00 PM EDT at the Hope Christian Church, 15338 Northwestern Turnpike, Augusta, WV, 26704.

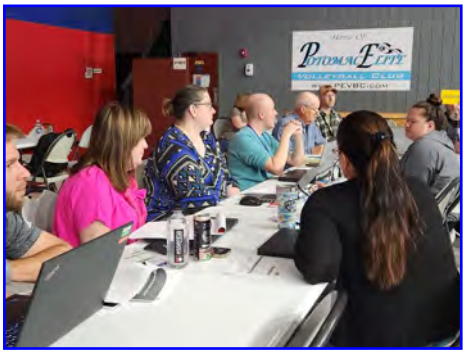
This is the second phase of our 2023 regional exercise program. The 'GridLock' scenario is based upon terrorist attacks on local electrical substations and water treatment plants that take down power for large sections of the region, while dumping toxic transformer coolants on the ground and releasing chlorine in the air. Multiple challenges spanning the list of Emergency Support Functions - https://www.fema.gov/pdf/emergency/nrf/nrf-esf-intro.pdf - from law enforcement, to hazmat containment and clean-up, to mass care and beyond, come into play.

This will be a challenge for emergency management, LE, fire and EMS, along with all the other stakeholders in the community.

This will be a Functional Exercise. As events unfold within each module, all phone calls, text messages, radio traffic and other communications will be executed, based upon the injects and your Emergency Operations Plan (EOP). Short of putting boots on the ground, this will be as real as it gets.

Lunch will be provided.

To register, contact Sandy Green at sanford.h.green@wv.gov or call (304) 807-5135.



JCOHSEM Committees

Steering Committee, John Sherwood, Chair

The Steering Committee works with the JCOHSEM director to guide the activities of JCOHSEM. A fourteen-member Steering Committee is made up of public and private representation. JCOHSEM is a department within the Jefferson County Commission, who has overall responsibility for the department and its employees. The Jefferson County Commission appoints all members to the steering committee. This committee meets following the Local Emergency Planning Committee (LEPC) Meetings held on the third Wednesday of February, April, June, August, October, and December. Please call the office for exact dates, locations, and times.

Public Awareness, Education and Training Committee, Paula Marrone-Reese, Chair

Any interested person can serve on this committee. The Public Awareness, Education and Training Committee is responsible to communicate the organization's activities to the public and to build support for JCOHSEM's programs. They work with the director and other staff to keep the entire community focused on the objectives of JCOHSEM, the opportunities for additional involvement and support by updating citizens and businesses about what the partners are doing and how the community will and is benefiting from these efforts. This
committee is responsible in assisting the director in setting up speaking engagements and public awareness events. This committee meets monthly on the second Wednesday of the month at 0830 in the EOC at 28 Industrial Blvd., Kearneysville, unless otherwise announced.

All Hazards Mitigation Planning Committee, Mason Carter, Chair

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We are responsible for the Citizen Corps/ CERT, StormReady, Community Rating System, Resilient Neighbor Network and Project Impact programs. JCOHSEM is also responsible for the Jefferson County R.A.C.E.S. group.

September 2023 Meetings & Events

- WV State weather calls, on Mondays and Fridays—10AM
- National Weather Service - Sterling calls, every Monday and Thursday -10:30AM
- WV Emergency Management Council calls every other Tuesday - 9AM
- September 6 - GridLock Regional Exercise - Augusta, WV - 9AM - 3PM
- September 7 - Monthly AARL Amateur Radio Emergency Network Testing - 6PM
- September 12 - Monthly Counter-Terrorism Committee meeting - EOC - 2PM
- September 14 - Hazard Mitigation Team bi-weekly meeting - on-line - 11AM
- September 15 - Regional Collaborative meeting NQS/EMPG/LEPC - Romney
- September 20 - First Responder meeting with DoH - Rt. 340 Detour – Ranson Civic Center - 10:30AM
- September 28 - Hazard Mitigation Team bi-weekly meeting - on-line - 11AM

Appendix D-9: Press Releases - May 19 and August 21

Jefferson County Office of Homeland Security
and Emergency Management
28 Industrial Blvd., Suite 101
Kearneysville, WV 25430

May 19, 2023
FOR IMMEDIATE RELEASE

Stephen S. Allen, Director
Office: 304-728-3290
Mobile: 304-279-8233

PRESS RELEASE

Jefferson County Hazard Mitigation Plan

Kearneysville, WV – Natural and man-made hazards may cause loss of life, property loss, and threats to public health and safety. During a disaster event, essential services including access to healthcare, fire/EMS, utilities, etc., may be affected. A hazard mitigation plan is maintained to serve as guidance to emergency management professionals. The purpose of a hazard mitigation plan is to 1) increase awareness around threats and vulnerabilities; 2) build partnerships for risk reduction; 3) identify long-term strategies for risk reduction; 4) align risk reduction with state and community objectives; and 5) identify approaches that focus resources on greatest risk and vulnerability.

In May of 2023, Jefferson County began the process of drafting an update to the 2018 plan. This update includes revised profiles of identified natural and man-made hazards, the addition of newly identified regional hazards, newly identified mitigation strategies, as well as updates to hazards previously identified in the 2018 adopted plan.

The Jefferson County Office of Homeland Security and Emergency Management invites you to participate in the in the 2023 Multi-Jurisdictional Hazard Mitigation Plan update. The Federal Emergency Management Agency (FEMA) and the West Virginia Emergency Management Division (WV EMD) requires this plan update in order for the County to be eligible for Federal hazard mitigation funding and technical assistance programs.

The Jefferson County Office of Homeland Security and Emergency Management will be scheduling a series of meetings throughout 2023. Input from each community and stakeholders is extremely important and critical to the planning process. To access to the plan, meeting material and public surveys, please visit the Jefferson County website.

https://www.jeffersoncountywv.org/county-government/departments/homeland-security-and-emergency-management.

All comments can be directed to The Jefferson County Office of Homeland Security and Emergency Management at jchsem@jeffersoncountywv.org.

######

Jefferson County Office of Homeland Security
and Emergency Management
28 Industrial Blvd., Suite 101
Kearneysville, WV 25430

August 21, 2023
FOR IMMEDIATE RELEASE

Stephen S. Allen, Director
Office: 304-728-3290
Mobile: 304-279-8233

PRESS RELEASE

Jefferson County Hazard Mitigation Plan Update meeting

and Public Review and Comment on the Draft Document

Kearneysville, WV – Natural and man-made hazards may cause loss of life, property loss, and threats to public health and safety. During a disaster event, essential services including access to healthcare, fire/EMS, utilities, etc., may be affected. A hazard mitigation plan is maintained to serve as guidance to emergency management professionals. The purpose of a hazard mitigation plan is to 1) increase awareness around threats and vulnerabilities; 2) build partnerships for risk reduction; 3) identify long-term strategies for risk reduction; 4) align risk reduction with state and community objectives; and 5) identify approaches that focus resources on greatest risk and vulnerability.

In May 2023, Jefferson County kicked off the hazard mitigation plan review and update and since then community officials and stakeholders and members of the public have been meeting to update the 2018 plan. This update includes revised profiles of identified natural and man-made hazards and newly identified mitigation strategies.

The Jefferson County Office of Homeland Security and Emergency Management invites the public to participate in the in the 2023 Multi-Jurisdictional Hazard Mitigation Plan update meeting and attend the public review and comment on the draft document. The meeting will be held on August 29 from 2PM to 5PM at the Ranson Civic Center (432 W. 2nd Ave, Ranson, WV).

This is the last scheduled meeting for the 2023 Hazard Mitigation Plan update. Input from each community and stakeholders is extremely important and critical to the planning process. To access to the plan, meeting material, and public surveys, please visit the Jefferson County website.

https://www.jeffersoncountywv.org/county-government/departments/homeland-security-and-emergency-management.

All comments can be directed to The Jefferson County Office of Homeland Security and Emergency Management at jchsem@jeffersoncountywv.org.

######

Appendix E: HAZUS Flood Risk Report

BUILDING DOLLAR EXPOSURE & TYPE (Region 9)

Building Inventory of Flood-Risk Structures: This report identifies high-valued buildings and other building characteristics exposed in the 1%-annual-chance (100-year) floodplain. Flood Risk Assessment datasets are developed by pinpointing all primary insurable structures in the high-risk effective and advisory floodplains. Essential facilities (schools, fire, police, E-911, nursing homes, hospitals, nursing homes) are inventoried to the 0.2-pecent (500-year) annual chance flood event. Community assets (government buildings, churches, historical structures, utilities, etc.) are also inventoried. Building characteristics inventoried and verified are **Occupancy Class**, Foundation Type, First Floor Height, Number of Stories, Area, and **Replacement Cost.** Default values are populated from the WV Property Tax Assessment Database and if necessary modified with user-defined values. Building pictures can be linked to the structure-level risk assessment using the unique building identifier (Parcel ID + Address Number).

Building Replacement Value: The repair costs to rebuild residential or non-residential structures from flood damage are significant insurance rating and mitigation construction factors. In addition, the structure's replacement value and other building characteristics (occupancy class, foundation type, first floor height, number of stories, and structure area) are inputs to model flood damage estimates. Appraisal values from the West Virginia property tax assessment records are the primary data source for buildings exposed in the 1%-annual-chance (100-yr) floodplain. These building replacement values in the statewide tax assessment database are updated every year by the WV Property Tax Division. If necessary, modified or user-defined values are entered in the enhanced building inventory database to override default appraisal records values when no appraisal values exist or are identified in an adjacent parcel; or if multiple buildings on a single parcel must be apportioned. Other data sources for building dollar replacement costs include neighborhood appraisal values, BRIM Insurance, and RS Means.

Occupancy Classes: The building type categories for residential and non-residential structures follow FEMA's Hazus occupancy classification. The primary source for the occupancy type is the 186 land use categories from tax assessment data. These land use codes are converted to the 33 Hazus building specific occupancy classes, and further generalized to residential and non-residential building classes. On the Risk MAP View of the WV Flood Tool, the building occupancy types based on *structure use* are classified as **Residential** (R - single dwelling, farmhouse, mobile home, multi-family, apartments, nursing homes, group quarters); **Commercial** (C - businesses or industrial), and **Other** Non-Residential (schools, government buildings, churches, non-inhabitable agricultural structures, etc.).

Different residential/non-residential categories may apply to different FEMA programs. Typically, the main difference is that for **structure use** applications the **Other Residential (> 4 units)** occupancy class (e.g., apartments, group housing) is categorized as RESIDENTIAL but for **structure type** applications is classified as NON-RESIDENTIAL. The **structure use** occupancy classification is based on habitable on non-habitable occupancy whereas the **structure type** classification is based on design and materials. Refer to the Occupancy Class Types table for a more detailed breakdown of the residential/non-residential categories by specific occupancy classes.

> **FEMA Programs that utilize "Structure Use" Residential/Non-Residential Classification:** WV Flood Tool's Risk MAP View (**R**esidential, **C**ommercial, and **O**ther Non-Residential), NFIP Specific Rating Guidelines; Open Hazus FAST Flood Assessment Structure Tool (Building Damage, Debris Total, and Restoration Time); Population Displacement Model. Note that Other Residential (> 4 units) is included in the RESIDENTIAL classification.
>
> **FEMA Programs that utilize "Structure Type" Residential/Non-Residential Classification:** FEMA's Community Rating System (CRS 214) Program Data Table; Substantial Damage Estimator (SDE) Tool; Nonstructural Mitigation Measures. Note that Other Residential (> 4 units) is included in the NON-RESIDENTIAL classification.

Manufactured Homes: Every manufactured mobile home in the floodplain is counted as a primary structure. If singlewide and doublewide mobile homes are assessed as personal property with no listed appraisal values, then replacement manufactured costs are derived from other sources. For example, manufactured replacement home costs may be compiled from the Other Building and Yard Improvements tax assessment table. However, if no tax appraisal values are present, then a countywide average value of singlewide or doublewide home values may be applied.

Owner Occupancy: Owner Occupancy is determined from the tax class data value records. Class II properties are owner-occupied residential property used exclusively for residential purposes and all farmland used for agricultural purposes by its owner or bona fide tenant.

Building Year and FIRM Status: Collected from the tax assessment records, the building year is compared to the effective date of the initial Flood Insurance Rate Map to determine the Pre-FIRM or Post-FIRM status of each inventoried building. If the site of a post-FIRM structure was not mapped as a Special Flood Hazard Area at the time of construction, then repairs or alterations are regulated as though it is a pre-FIRM structure.

Community Engagement and Verification:

Building-Level Verification: Verify the highly valued buildings using the building-level table and Risk MAP View of the WV Flood Tool. For buildings inventoried in the 1% floodplains, review the most expensive residential and non-residential buildings located in the high-risk flood zones sorted on building appraisal value from largest to smallest value. Identify building-level mitigation and outreach strategies.

- Confirm highly valued residential and non-residential buildings for correctness. Confirm recently vacated or demolished structures for correctness. Use the Construction Grade with the building replacement value to identify superior quality structures versus dilapidated/vacated structures. Submit map links of missing noteworthy structures in the high-risk floodplains, especially those of significant importance to the community.

- Filter by Occupancy Class and Regulatory Floodway to refine analysis of building types exposed to higher flood velocities associated with the main channel of the river or stream.

Community-Level Verification: Review community-level flood risk assessment statistics of the building stock to identify mitigation and outreach strategies.

- Percentage of residential versus non-residential homes which impact flood disaster response and flood proofing mitigation efforts.

- Percentage of Post-FIRM buildings and compliance with floodplain development standards.

- Review the more vulnerable building stock such as lighter-weight manufactured homes and rental homes where renters may not carry rental insurance.

Building Counts / Building Dollar ($) Exposure / Building Occupancy Type / Building Year. Tables BE-1 through BE-5 present the building counts, building dollar exposure totals, median building values, residential/non-residential occupancy classes, owner-occupancy, building year, and Post-FIRM percentage. These building characteristics are for structures inventoried in the high-risk effective and advisory flood zones for a 1%-annual-chance (100-year) event.

Summary Community Building Counts

- **Jefferson**, **Berkeley**, and **Morgan** counties have similar countywide building counts and rank between 42 and 44 of the State's counties. **Berkeley Unincorporated** (ranked 36th in unincorporated areas) and the incorporated town of **Bath** (ranked 60th for incorporated areas) have the *most buildings* in the high-risk floodplain.

Summary Community Building Values

- **Berkeley**, **Jefferson**, and **Morgan** counties have similar countywide total building values and rank between 26 and 28 in the State. **Morgan Unincorporated** (ranked 21st in unincorporated areas) and the incorporated town of **Martinsburg** (ranked 17th for incorporated areas) have the *highest building dollar values* vulnerable to a 1%-annual-chance flood event.

Median Building Replacement Value

- **Jefferson** ($96K), **Morgan** ($79K), and **Berkeley** ($62K) **counties** rank first, second, and fourth in the State for *countywide median building replacement value* and much higher than the statewide median building replacement value of $37,000.
- **Jefferson** ($101K), **Berkeley** ($96K), and **Morgan** ($80K) **counties** rank first, second, and fourth in the State for *countywide median single-family dwelling (RES 1 Occupancy Class) replacement value* and above the statewide median single family dwelling value of $44,000.

Building Occupancy Class Type

- Most of the primary buildings are *residential*: **Berkeley County** (94%), **Jefferson County** (89%), and **Morgan County** (81%). Of the residential buildings, most of the building stock is *owner-occupied*: Berkeley County (74%), Jefferson County (71%), and Morgan County (69%).
- The total building value for **Jefferson County** is 64% *residential* for the countywide building stock value exposed in the 1% floodplain, while for **Morgan County** and **Berkeley County** the *non-residential* properties are 61% and 53% respectively of the countywide building stock dollar value exposure.
- **Berkeley County Unincorporated** (ranked 12th in the State and 1st in Region 9) has the highest percentage (34%) of *manufactured homes* for *single family dwelling* building stock (Hazus specific occupancy categories: RES1-single family dwelling and RES2-mobile home).

Building Year and FIRM Status

- **Berkeley** and **Jefferson counties** rank 11th in the State for the highest percentage of *Post-FIRM structures* or new development.
- Historical **Harpers Ferry** and **Shepherdstown** are two of the oldest communities in the State with *building year median values* of 1830 and 1900, respectively.

Table BE-1. Community rankings of **Total Building Counts** and **Total Building Replacement Values**. Statewide there are 268 flood-prone communities, consisting of 213 incorporated areas and 55 unincorporated areas/counties. For Region 9, eleven incorporated communities except for Hedgesville participate in the NFIP.

BUILDING COUNT RANKING		
Community	**Region**	**State**
INCORPORATED		
Bath	1	60
Ranson	2	86
Martinsburg	3	91
Shepherdstown	4	103
Harpers Ferry	5	143
UNINCORPORATED		
Berkeley	1	36
Jefferson	2	40
Morgan	3	41
COUNTY		
Jefferson	1	42
Berkeley	2	43
Morgan	3	44

BUILDING $ VALUE RANKING		
Community	**Region**	**State**
INCORPORATED		
Martinsburg	1	17
Bath	2	31
Shepherdstown	3	48
Charles Town	4	77
Harpers Ferry	5	100
UNINCORPORATED		
Morgan	1	21
Jefferson	2	25
Berkeley	3	31
COUNTY		
Berkeley	1	26
Jefferson	2	27
Morgan	3	28

Source: Region 9 Community-Level Building Exposure Table

- Highest number of primary structures in the 1% floodplain:
  - Bath (incorporated)
  - Berkley County Unincorporated (unincorporated area)
  - Jefferson County (countywide)

- Highest building dollar exposure in the 1% floodplain:
  - Martinsburg (incorporated)
  - Morgan County Unincorporated (unincorporated)
  - Berkeley County (countywide)

Table BE-2. Building Dollar Exposure: Residential versus Non-Residential

Community	RESIDENTIAL				COMMERCIAL NON-RESIDENTIAL		OTHER NON-RESIDENTIAL		TOTAL BUILDING VALUE		
Community Name	#	% Count	Value ($)	% Value	#	Value ($)	#	Value ($)	#	Value ($)	Rank[1]
Berkeley County*	619	97.3%	$50,593K	87.3%	12	$1,965K	5	$5,373K	636	$57,931K	3
Martinsburg	51	68.0%	$6,124K	9.8%	21	$55,166K	3	$1,035K	75	$62,324K	1
BERKELEY	**670**	**94.2%**	**$56,717K**	**47.2%**	**33**	**$57,131K**	**8**	**$6,408K**	**711**	**$120,255K**	**1**
Bolivar	3	75.0%	$251K	5.9%	0	$0K	1	$4,000K	4	$4,251K	7
Charles Town	23	85.2%	$2,073K	20.8%	4	$7,893K	0	$0K	27	$9,966K	4
Harpers Ferry	6	19.4%	$722K	10.4%	25	$6,243K	0	$0K	31	$6,965K	5
Jefferson County*	505	96.0%	$60,022K	85.4%	14	$4,889K	7	$5,349K	526	$70,260K	2
Ranson	79	98.8%	$5,206K	98.1%	0	$0K	1	$100K	80	$5,305K	6
Shepherdstown	38	57.6%	$7,873K	36.4%	24	$8,975K	4	$4,794K	66	$21,641K	3
JEFFERSON	**654**	**89.1%**	**$76,146K**	**64.3%**	**67**	**$27,999K**	**13**	**$14,243K**	**734**	**$118,388K**	**2**
Bath	64	49.6%	$7,226K	20.5%	52	$11,499K	13	$16,499K	129	$35,224K	2
Morgan County*	439	90.7%	$35,347K	48.2%	38	$14,528K	7	$23,386K	484	$73,261K	1
Paw Paw	16	53.3%	$1,133K	40.9%	13	$1,507K	1	$130K	30	$2,770K	8
MORGAN	**519**	**80.7%**	**$43,705K**	**39.3%**	**103**	**$27,534K**	**21**	**$40,015K**	**643**	**$111,255K**	**3**
SUMMARY	**1843**	**88.0%**	**$176,569K**	**50.3%**	**203**	**$112,664K**	**42**	**$60,666K**	**2088**	**$349,899K**	

* Unincorporated

** Split Community

[1] Group Rank on Community Type: County, Unincorporated, Incorporated

Region 9 Tabular Community-Level Report: https://data.wvgis.wvu.edu/pub/RA/State/CL/ (Building Exposure)

Table BE-3. Building Dollar Exposure Breakdown by Single Family

Community		SINGLE FAMILY HOME		MANUFACTURED (MOBILE) HOME			SINGLE FAMILY TOTAL		
Community Name	County	Count	Value ($)	Count	% Count	Value ($)	Count	Value ($)	Group Rank[1]
Berkeley County*	BERKELEY	404	$45,448K	206	34%	$3,947K	610	$49,396K	2
Martinsburg	BERKELEY	41	$4,507K	0	0%	$0K	41	$4,507K	4
	BERKELEY	**445**	**$49,956K**	**206**	**32%**	**$3,947K**	**651**	**$53,903K**	**2**
Bolivar	JEFFERSON	3	$251K	0	0%	$0K	3	$251K	8
Charles Town	JEFFERSON	21	$1,991K	0	0%	$0K	21	$1,991K	5
Harpers Ferry	JEFFERSON	6	$722K	0	0%	$0K	6	$722K	7
Jefferson County*	JEFFERSON	421	$56,946K	77	15%	$2,311K	498	$59,257K	1
Ranson	JEFFERSON	65	$4,494K	10	13%	$351K	75	$4,845K	3
Shepherdstown	JEFFERSON	35	$7,191K	0	0%	$0K	35	$7,191K	1
	JEFFERSON	**551**	**$71,595K**	**87**	**14%**	**$2,663K**	**638**	**$74,257K**	**1**
Bath	MORGAN	52	$5,542K	3	5%	$53K	55	$5,595K	2
Morgan County*	MORGAN	367	$33,782K	66	15%	$1,211K	433	$34,993K	3
Paw Paw	MORGAN	12	$806K	0	0%	$0K	12	$806K	6
	MORGAN	**431**	**$40,130K**	**69**	**14%**	**$1,265K**	**500**	**$41,394K**	**3**
SUMMARY		**1,427**	**$161,680K**	**362**	**20%**	**$7,875K**	**1,789**	**$169,555K**	

* Unincorporated

** Split Community

[1] Group Rank on Community Type: County, Unincorporated, Incorporated

Region 9 Tabular Community-Level Report: https://data.wvgis.wvu.edu/pub/RA/State/CL/ (Building Exposure)

Table BE-4. Building Year, Building Value, Building Value Single Family Dwelling (RES 1 occupancy class)

Community Name	County	Average Building Year	Median Building Year	Average Building Value	Median Building Value	Average Building Value RES 1	Median Building Value RES 1
Berkeley County*	BERKELEY	1969.6	1978	$83K	$57K	$82K	$56K
Martinsburg	BERKELEY	1961.9	1970	$831K	$103K	$120K	$103K
	BERKELEY	**1968.7**	**1977**	**$162K**	**$62K**	**$112K**	**$96K**
Bolivar	JEFFERSON	1878	1870	$84K	$86K	$84K	$86K
Charles Town	JEFFERSON	1938.2	1920	$118K	$60K	$90K	$55K
Harpers Ferry	JEFFERSON	1848.5	1830	$225K	$188K	$120K	$110K
Jefferson County*	JEFFERSON	1958.3	1973	$134K	$93K	$119K	$94K
Ranson	JEFFERSON	1970.5	1977	$66K	$63K	$66K	$63K
Shepherdstown	JEFFERSON	1886.5	1900	$284K	$207K	$207K	$173K
	JEFFERSON	**1947.4**	**1969**	**$143K**	**$96K**	**$130K**	**$101K**
Bath	MORGAN	1941.1	1940	$273K	$113K	$113K	$92K
Morgan County*	MORGAN	1971	1975	$144K	$70K	$81K	$65K
Paw Paw	MORGAN	1946.9	1941	$92K	$66K	$71K	$66K
	MORGAN	**1963.7**	**1968**	**$168K**	**$79K**	**$93K**	**$80K**
State Statistics		**1959.1**	**1960**	**$91K**	**$37K**	**$57K**	**$44K**

* Unincorporated

Region 9 Tabular Community-Level Report: https://data.wvgis.wvu.edu/pub/RA/State/CL/ (FIRM)

Table BE-5. Initial FIRM Effective Date, Pre-FIRM/Post-FIRM percentages

CID	Community Name	County	Initial FIRM Effective Date	Total Building Count	% Pre-FIRM	% Post-FIRM	% Unknown
540282	Berkeley County*	BERKELEY	8/4/1988	635	58%	32%	10%
540006	Martinsburg	BERKELEY	12/18/1979	75	79%	21%	0%
		BERKELEY		**710**	**60%**	**31%**	**9%**
540030	Bolivar	JEFFERSON	12/18/2009	3	100%	0%	0%
540066	Charles Town	JEFFERSON	12/4/1979	27	74%	22%	4%
540067	Harpers Ferry	JEFFERSON	8/24/1984	31	100%	0%	0%
540065	Jefferson County*	JEFFERSON	10/15/1980	526	59%	36%	5%
540068	Ranson	JEFFERSON	6/15/1979	80	66%	33%	1%
540069	Shepherdstown	JEFFERSON	3/18/1980	66	85%	8%	8%
		JEFFERSON		**733**	**64%**	**31%**	**5%**
540005	Bath	MORGAN	1/2/1980	129	88%	12%	0%
540144	Morgan County*	MORGAN	7/1/1987	484	65%	33%	2%
540252	Paw Paw	MORGAN	11/2/1984	30	90%	10%	0%
		MORGAN		**643**	**71%**	**28%**	**2%**

* Unincorporated

Region 9 Tabular Community-Level Report: https://data.wvgis.wvu.edu/pub/RA/State/CL/ (FIRM)

Verification - Tabular Report: Building Dollar Exposure for structures located in the high-risk 1%-annual-chance (100-yr) floodplain can be viewed and verified for each community by linking to the risk assessment tabular report (Excel spreadsheet). To verify the geographic location of each high-valued building, the Excel table provides map view links. Refine the search by filtering residential and non-residential records.

Table BE-6A. Highly valued buildings in 1% floodplain for **Berkeley County**. Source of Building Replacement Values: Assessment Records, Neighborhood Values, BRIM Insurance, RS Means, or any other available sources. Which high-valued-structures are vulnerable to riverine flooding?

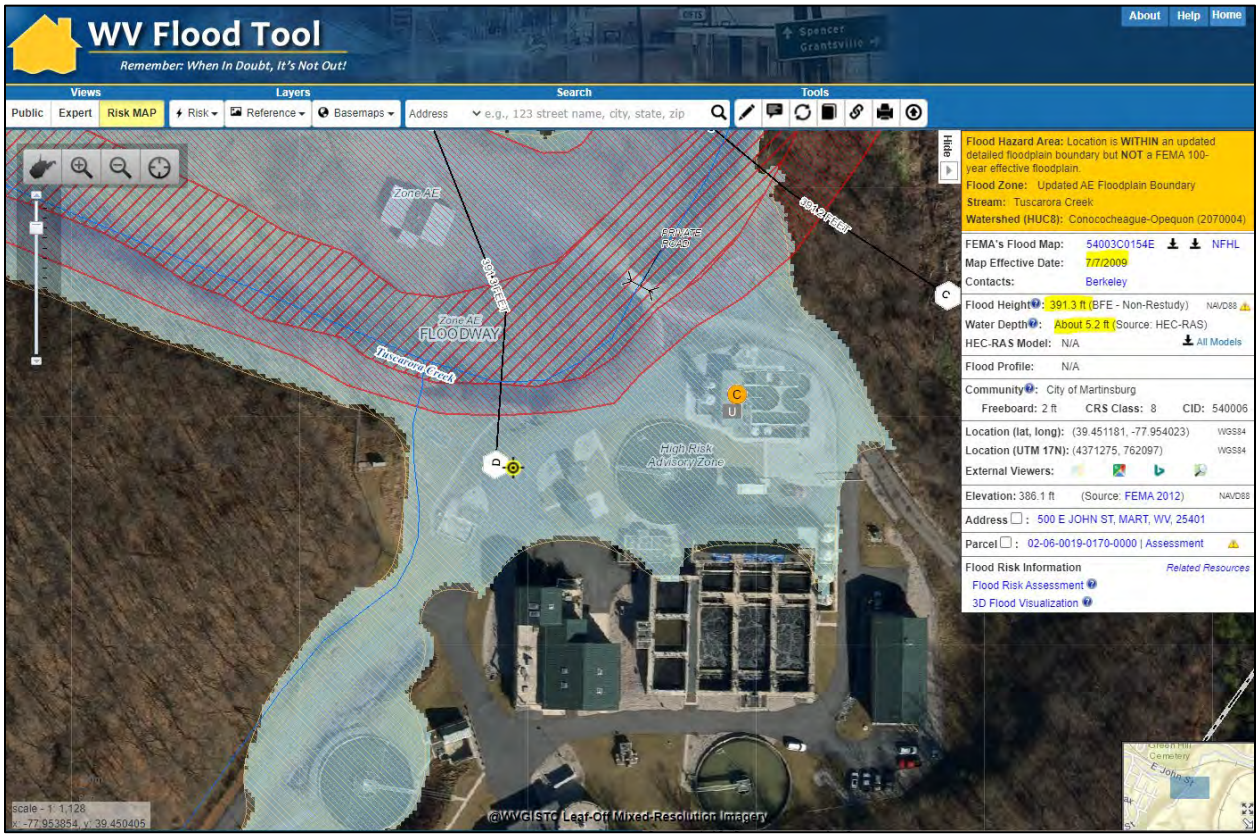
Community Name	WV Flood Tool Link	Owner Name or Building ID	Hazard Occupancy Code	**General Occupancy**	**Building Appraisal**
Martinsburg	FT	Martinsburg Treatment Plant	COM4	Commercial	$ 51,776,300
Berkeley County*	FT	CITY OF MARTINSBURG	GOV1	Governmental	$ 5,000,000
Martinsburg	FT	COUNTY COUNCIL OF BERKELEY COUNTY WEST VIRGINIA	COM2	Commercial	$ 945,800
Berkeley County*	FT	SHEPHERDS COVE LLC	RES1	Residential	$ 851,200
Martinsburg	FT	CITY OF MARTINSBURG	GOV1	Other	$ 785,600
Berkeley County*	FT	02-04-0003-0049-0000_1340	RES1	Residential	$ 714,000
Berkeley County*	FT	02-02-0017-0040-0000_1210	RES1	Residential	$ 638,100
Martinsburg	FT	MAGYARI PROPERTIES LLC	IND2	Commercial	$ 573,200
Berkeley County*	FT	02-02-005A-0055-0000_315	RES1	Residential	$ 559,900
Berkeley County*	FT	BUNKER HILL ANTIQUES ASSOCIATES LLC	COM1	Commercial	$ 546,000
Martinsburg	FT	CAPITAL MEATS INC	COM2	Commercial	$ 498,000
Berkeley County*	FT	02-08-0009-0001-0004_555	RES1	Residential	$ 411,000
Berkeley County*	FT	02-04-0003-0002-0000_413	RES1	Residential	$ 399,500
Berkeley County*	FT	02-02-0003-0075-0000_955	RES1	Residential	$ 369,400
Berkeley County*	FT	02-04-037M-0013-0000_197	RES1	Residential	$ 346,300
Berkeley County*	FT	LEATHERMAN LYNN EUGENE	COM1	Commercial	$ 338,500
Berkeley County*	FT	02-02-0003-0077-0000_1061	RES1	Residential	$ 338,400
Berkeley County*	FT	02-04-0040-0005-0003_8973	RES1	Residential	$ 329,800
Berkeley County*	FT	02-02-0010-0052-0001_21	RES1	Residential	$ 314,000
Berkeley County*	FT	02-02-0018-0003-0009_1147	RES1	Residential	$ 313,700
Berkeley County*	FT	02-02-0003-0119-0000_421	RES1	Residential	$ 313,300
Berkeley County*	FT	02-02-010M-0007-0000_18	RES1	Residential	$ 302,800
Berkeley County*	FT	02-02-0002-0058-0000_1433	RES1	Residential	$ 301,500
Martinsburg	FT	02-06-004D-0146-0000_331	RES3B	Residential	$ 300,300

* Unincorporated

Region 9 Tabular Building-Level Report Link: https://data.wvgis.wvu.edu/pub/RA/State/BL/BLRA/R9_BLRA_Full_List/

The high-value structure greater than $51 million in Martinsburg is the Martinsburg Wastewater Treatment Plant. The flood source is Tuscarora Creek. The other building with the estimated value of $5 million in the unincorporated area is the Big Springs Water Filtration Plant. The flood source is Evans Run.

Figure BE-6B. Martinsburg Wastewater Treatment Plant. [Map link].



A high-risk advisory floodplain was redelineated using newer 2012 elevation LiDAR data. In 2016, **Martinsburg's wastewater treatment plant** was revamped at a cost of $53.5 million. Some structures of the wastewater treatment plant are in the high-risk advisory floodplain at a 1% (100-year) and 0.2% (500-year) estimated flood inundation depths of 5 feet and 10 feet, respectively.

New flood maps: An active flood study is being performed for this location which in the future will produce new effective flood maps and base flood elevations. If the natural grade changed when the new wastewater treatment plant was revamped, a newer topographic elevation source other than the 2012 LiDAR should be incorporated into the flood study update. In 2021 the USGS is setting up a task order for new LiDAR to be flown for the Eastern Panhandle which could be an updated topographic source.

Examples of mitigation measures for *utilities* include:

- Emergency response plan
- Barriers around key assets
- Elevated electrical equipment
- Emergency generators
- Bolted down chemical tanks

Online Resources:

- EPA FLOOD RESILIENCE: A Basic Guide for Water and Wastewater Utilities
- Tips for Flood-Proofing Wastewater Treatment Plants
- Flood-Resistant Wastewater Treatment Plant Upgrades

Table BE-6C. Highly valued buildings in 1% floodplain for **Morgan County**. Which high-valued-structures are vulnerable to riverine flooding?

Community Name	WV Flood Tool Link	Owner Name or Building ID	Hazard Occupancy Code	General Occupancy	Building Appraisal
Morgan County*	FT	BOARD OF EDUCATION	EDU1	Other	$ 15,000,000
Bath	FT	MORGAN CO BLDG COMM	GOV1	Other	$ 10,591,500
Morgan County*	FT	BOARD OF EDUCATION	EDU1	Other	$ 6,210,000
Morgan County*	FT	WARM SPRINGS PUBLIC SERVICE	COM4	Commercial	$ 4,000,000
Morgan County*	FT	U S SILICA	IND4	Commercial	$ 3,304,600
Morgan County*	FT	BOARD OF EDUCATION	EDU1	Other	$ 1,650,000
Bath	FT	CATHOLIC CHURCH	REL1	Other	$ 1,565,700
Bath	FT	MORGAN ARTS COUNCIL INC	COM8	Commercial	$ 1,482,300
Bath	FT	CITIZENS NATIONAL BANK OF BERKELEY SPRINGS	COM5	Commercial	$ 1,448,900
Morgan County*	FT	RANKIN & ASSOCIATES LLC	COM8	Commercial	$ 1,122,100
Bath	FT	BERKELEY SPRINGS STATE PARK	COM8	Commercial	$ 1,009,900
Morgan County*	FT	DANIEL G KAMIN BERKELEY SPRINGS LLC	COM1	Commercial	$ 934,900
Bath	FT	THE COUNTRY INN OF BERKELEY SPRINGS LLC	RES4	Residential	$ 931,600
Bath	FT	MORGAN COUNTY COMMISSION (THE)	EDU1	Other	$ 872,400
Bath	FT	BOARD OF EDUCATION	EDU1	Other	$ 702,900
Morgan County*	FT	BERKELEY ON THE RUN LLC	COM2	Commercial	$ 653,200
Bath	FT	M E CHURCH TR	REL1	Other	$ 615,900
Bath	FT	CHURCH OF CHRIST OF B S	REL1	Other	$ 547,600
Morgan County*	FT	33-08-002A-0059-0000_167	RES1	Residential	$ 511,100
Paw Paw	FT	ROGERS PROPERTIES LLC	COM1	Commercial	$ 482,600
Morgan County*	FT	33-01-0019-0029-0000_4581	RES1	Residential	$ 448,900
Morgan County*	FT	CITIZENS NATIONAL BANK OF BERKELEY SPRINGS	COM5	Commercial	$ 439,100
Morgan County*	FT	MCDONALDS CORP A DEL CORP	COM8	Commercial	$ 409,800

* Unincorporated

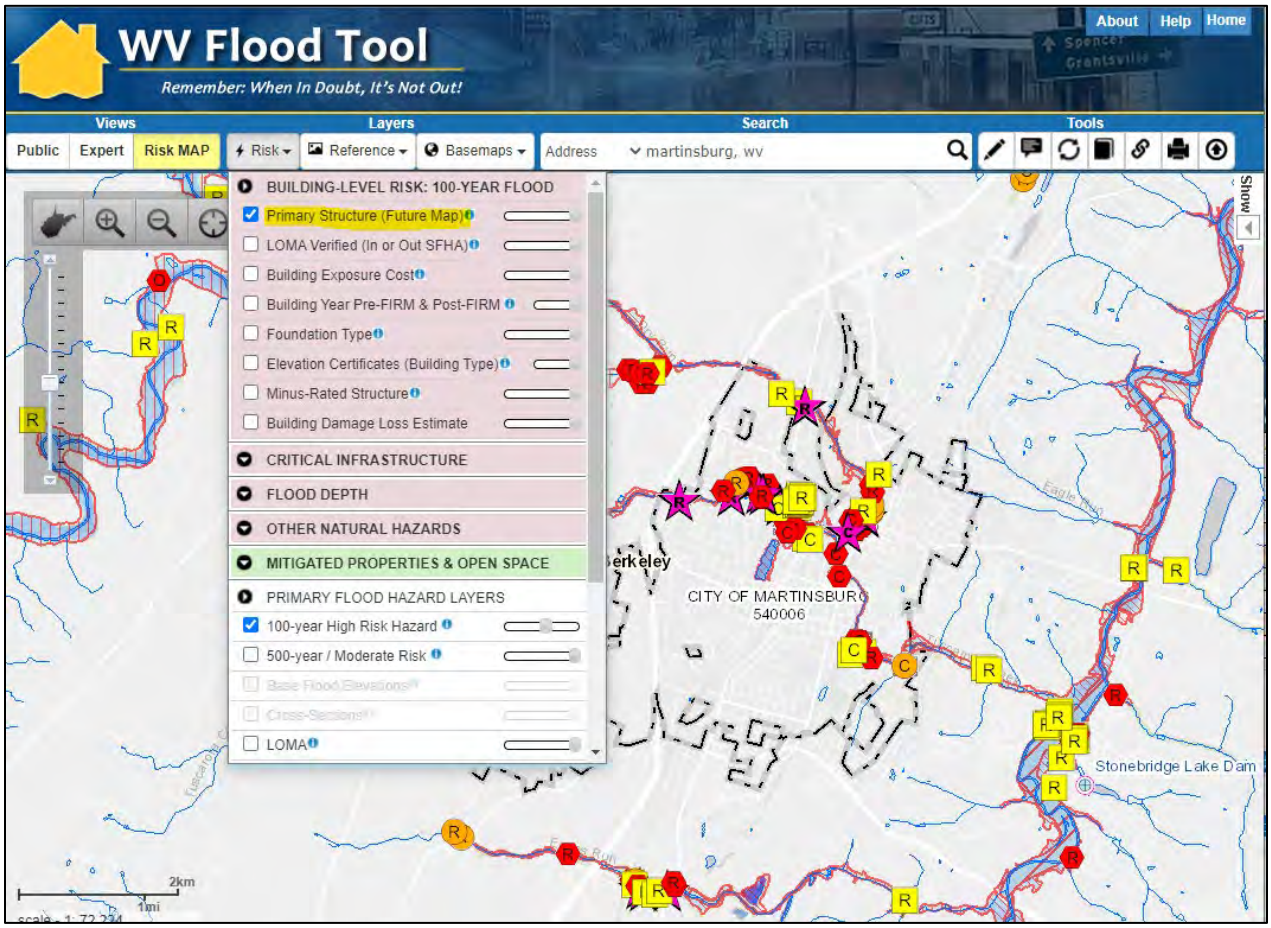
Region 9 Tabular Building-Level Report: data.wvgis.wvu.edu - /pub/RA/State/BL/BLRA/R9_BLRA_Full_List/

Two high-value structures greater than $10 million in or near Berkeley Springs (Bath) are the Berkeley Springs High School and Morgan County Courthouse. The flood source is Warm Springs Run.

In the building-level dollar exposure report, data fields include Community Identifiers, Building Identifier, Address, Owner Name, Flood Zone designation, FIRM Status, Building Characteristics (year, occupancy, grade, foundation type, first floor height, area), Building Appraisal, Building Value Source, Depth Grid, Depth in Structure, Building Damage Percent, Building Loss Dollar Value, and Flood Tool Link.

Verification - WV Flood Tool Risk MAP: The **WV Flood Tool Risk Map View** should be used to view and verify inventories high-value buildings and other risk layers, such as the examples below of Martinsburg in Berkeley County and Berkeley Springs (Bath) in Morgan County. Figure BE-7A shows the primary structures default view for Residential, Commercial, and Non-Residential properties.

Figure BE-7A. Martinsburg's *primary structures* viewable on the Risk MAP View of the WV Flood Tool. Symbol letters indicate general occupancy (**R**esidential, **C**ommercial, **O**ther Non-Residential).



WV Flood Tool Map Link: https://mapwv.gov/flood/map/?wkid=102100&x=-8679568&y=4788783&l=7&v=2

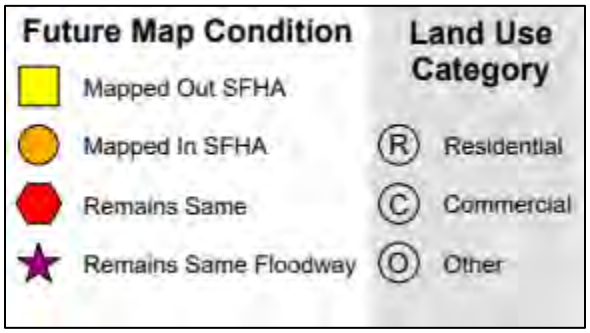
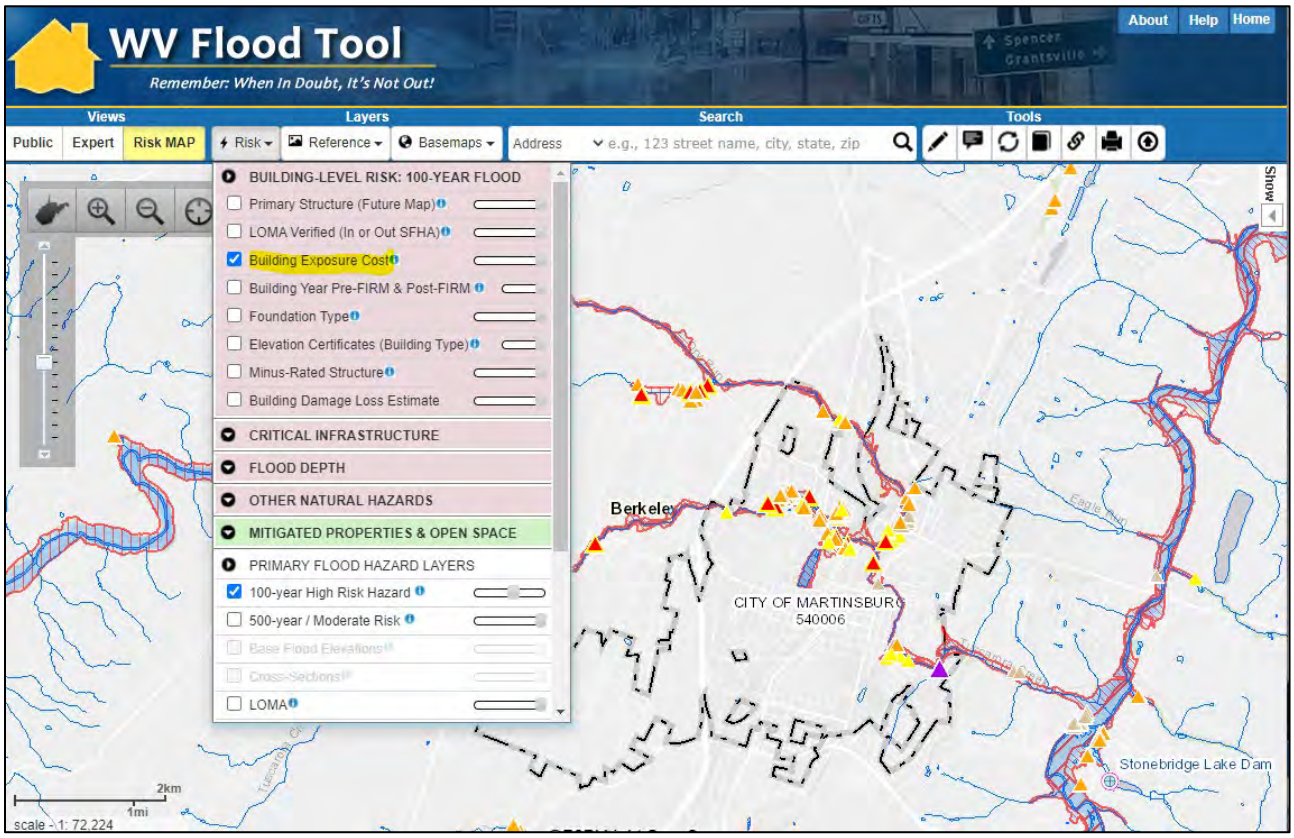


Figure BE-7B. Martinsburg's *high-value building floodplain structures* viewable on the Risk MAP View of the WV Flood Tool. Symbol letters indicate building exposure cost.



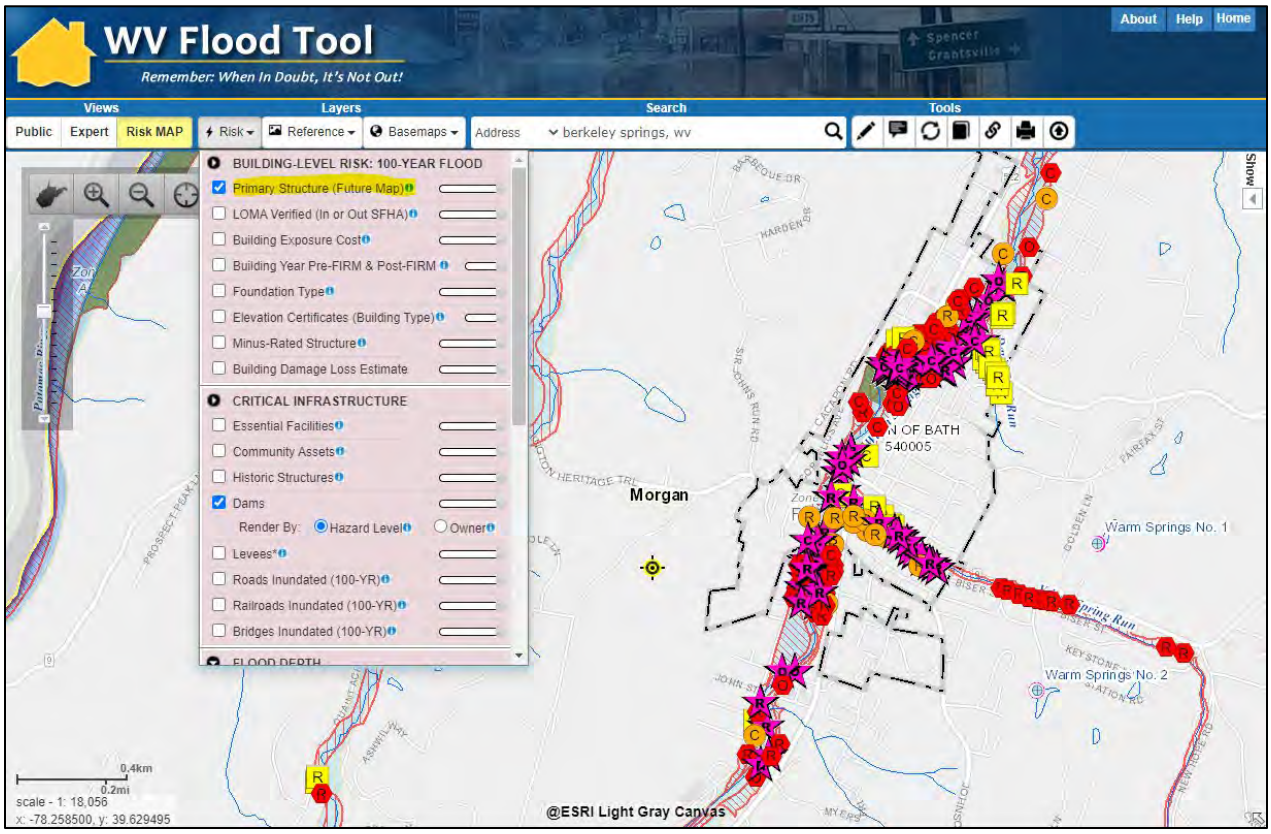
WV Flood Tool Map Link: https://mapwv.gov/flood/map/?wkid=102100&x=-8679568&y=4788783&l=7&v=2

Legend for General Occupancy Class

R – Residential (homes, apartments, group quarters)
C – Commercial (industrial)
O – Other Non-Residential (schools, churches, govt.)

Legend for Building Exposure Cost

Figure BE-7C. Bath's *primary structures* viewable on the Risk MAP View of the WV Flood Tool. Symbol letters indicate general occupancy (**R**esidential, **C**ommercial, **O**ther Non-Residential).



WV Flood Tool Map Link: https://mapwv.gov/flood/map/?wkid=102100&x=-8708553&y=4811397&l=9&v=2

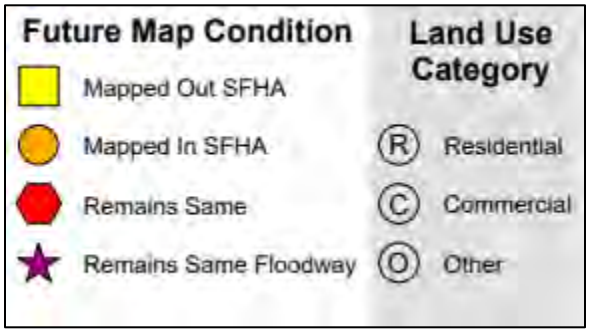
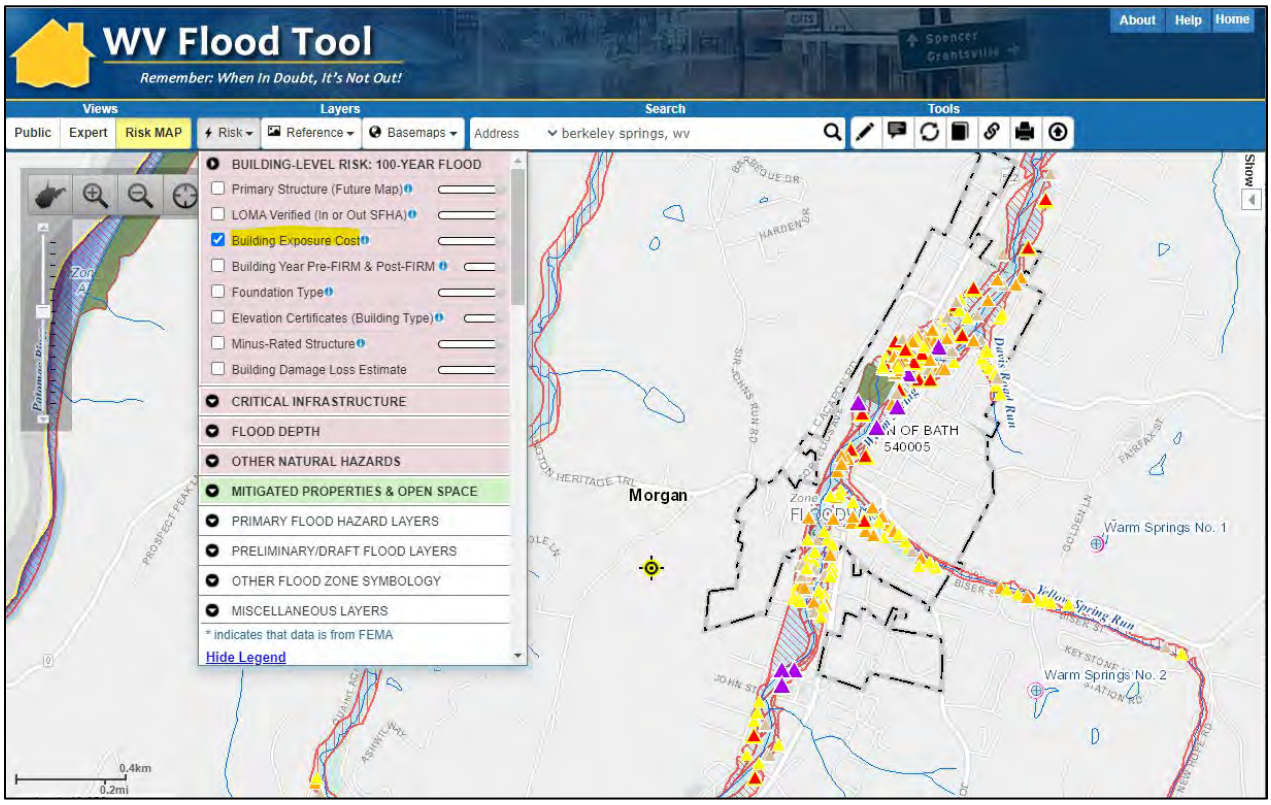


Figure BE-7D. Bath's *high-value building floodplain structures* viewable on the Risk MAP View of the WV Flood Tool. Symbol letters indicate building exposure cost.



WV Flood Tool Map Link: https://mapwv.gov/flood/map/?wkid=102100&x=-8708553&y=4811397&l=9&v=2

Legend for General Occupancy Class

R – Residential (homes, apartments, group quarters)
C – Commercial (industrial)
O – Other Non-Residential (schools, churches, govt.)

Legend for Building Exposure Cost

RESOURCES:

Reference Tables: Occupancy Classes | Foundation Types

Flood Risk Methodology: WV Flood Risk Assessment | FEMA's Hazus Loss Estimation

WV Flood Tool: Resources Page | Glossary

* * *

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COMMUNITY ASSETS (Region 9)

Religious Organization

Educational Building

Emergency Medical Services

Government Building

Utility

National Register Historical Structure

Description: **Community assets** are historical structures listed on the National Register of Historic Places, government facilities (federal, state, local), emergency medical services (EMS), religious organizations, utilities, postsecondary educational facilities, or other buildings of significance that contribute to the *built environment* of community. A hazard vulnerability analysis of community historic/cultural should be conducted by floodplain managers and risk planners to develop mitigation strategies for these assets.

A designated historic structure can obtain the benefit of subsidized flood insurance through the NFIP even if it has been substantially improved or substantially damaged so long as the building maintains its historic designation. Although the NFIP provides relief to historic structures from having to comply with NFIP floodplain management requirements for new construction, communities and owners of historic structures should give consideration to mitigation measures that can reduce the impacts of flooding on historic structures located in Special Flood Hazard Areas (44 CFR §60.3).

Community Engagement and Verification:

Review the accuracy and completeness of all *active* **community assets**. Report any structures that are missing. Verify the buildings and location using the Table and Risk MAP View of the WV Flood Tool. Review and identify mitigation strategies for the community assets vulnerable to flooding.

Table CA-1. Essential Facility Types and Qualification Criteria for Statewide Risk Assessment

COMMUNITY ASSET	Government Buildings	EMS	Religious Organizations	Educational Facilities	Utilities	Historical Buildings
Qualification	Local, State, and Federal Buildings	Ambulances	Worship facility	Post-secondary educational facilities	Large utility structures (e.g., not small pump stations)	NR Site Points Historic District Buildings older than 1930
FEMA Lifeline Component	Government Service, Shelter	Patient Movement	Food, Water, Shelter	Shelter	Water, Health, Facility Management	

Community Lifelines: FEMA recently developed the community lifelines construct to increase effectiveness in disaster operations and better position the Agency to respond to catastrophic incidents. Community assets cover a minimum of four lifeline sectors: Safety and Security; Food, Water, Shelter; Health and Medical; and Energy (CA-1).

Community Assets: A total of 34 community assets (non-historical) were inventoried in the 1%-annual-chance floodplain for the **Region 9** Planning and Development Council (Table CA-2). **Jefferson County** (ranked 46th in the state) has the largest number of inventoried community resources (n=13) in Region 9. In the floodplain are three Shepherdstown University *post-secondary educational* buildings located in **Shepherdstown**, **Jefferson County**, the highest ranking in the State for post-secondary facilities in an incorporated area and county. **Berkeley** and **Jefferson** counties are ranked 5th and 11th, respectively, in the State for the number of inventoried *utility* buildings. The city of **Martinsburg** (ranked 1st of all incorporated areas) has four *utilities* located in the high-risk floodplain.

Historical Community Assets: A total of 190 *historical buildings* were inventoried in the 1%-annual-chance floodplain for **Region 9** (Table CA-3). The data sources for the historical buildings are from the National Register *site* and *area* designations. Buildings identified within National Register Areas or registered historic districts are older than 1930. **Jefferson County** is ranked 4th in the State as having the most historical buildings (n=123) in the high-risk floodplain. Most of these historical buildings are in the towns of **Shepherdstown** (n=51) and **Harpers Ferry** (n=29). The unincorporated area of **Jefferson County** is ranked 1st among all unincorporated areas with 26 historical buildings followed by the unincorporated area of **Berkeley County** (18 buildings). The town of **Bath** (Berkeley Springs) in Morgan County is ranked 10th in the State for an incorporated area with the most historical buildings (n=47). For the most National Register Areas in the State that intersect the 1% floodplain, **Jefferson County** (23 NR Areas) is ranked first, **Berkeley County** (n=20) second, and **Morgan County** (n=3) nineteenth. For more complete information about the historical designations, refer to the National Register WV Listings.

FEMA LIFELINE RESOURCES

Bringing Lifelines into Hazard Mitigation Planning: Slides | Audio | Fact Sheet | BRIC | FEMA Website

HISTORICAL RESOURCES

Incorporating Historic Resources in Hazard Mitigation Plan: FEMA R3 Presentation | MD Guide

FEMA Technical Bulletin: Floodplain Management of Historic Structures

Map Resources: WV Flood Tool's Risk MAP View | WV SHPO GIS Viewer

National Register Listing: WV State Historic Preservation Office

Table CA-2. Community Assets vulnerable to riverine flooding.

Community Name	County	Religious Org.	Govt. Bldg.	Utility	Education	EMS	Other	Total (Non-Historical)
Berkeley County*	BERKELEY	1	0	1	0	0	0	2
Hedgesville	BERKELEY	0	0	0	0	0	0	0
Martinsburg	BERKELEY	2	1	4	0	0	0	7
SUM	**BERKELEY**	**3**	**1**	**5**	**0**	**0**	**0**	**9**
Bolivar	JEFFERSON	0	0	1	0	0	0	1
Charles Town	JEFFERSON	0	0	1	0	0	0	1
Harpers Ferry	JEFFERSON	0	1	0	0	0	0	1
Jefferson County*	JEFFERSON	2	2	1	0	0	0	5
Ranson	JEFFERSON	1	0	0	0	0	0	1
Shepherdstown	JEFFERSON	0	0	1	3	0	0	4
SUM	**JEFFERSON**	**3**	**3**	**4**	**3**	**0**	**0**	**13**
Bath	MORGAN	6	2	0	0	0	0	8
Morgan County*	MORGAN	0	1	1	0	1	0	3
Paw Paw	MORGAN	1	0	0	0	0	0	1
SUM	**MORGAN**	**7**	**3**	**1**	**0**	**1**	**0**	**12**
TOTAL		**13**	**7**	**10**	**3**	**1**	**0**	**34**

* Unincorporated Community

Region 9 Tabular Community-Level Report Link: data.wvgis.wvu.edu - /pub/RA/State/CL/Community_Asset/

Table CA-3. Historical Community Assets vulnerable to riverine flooding.

Community Name	County	NR Bldg. Sites	Bldg. in Historic District (older than 1930)	Total Historic Bldgs.	# NR Areas /Districts in 1% Floodplain
Berkeley County*	BERKELEY	6	12	18	13
Hedgesville	BERKELEY	0	0	0	0
Martinsburg	BERKELEY	0	2	2	8
	BERKELEY	**6**	**14**	**20**	**20**
Bolivar	JEFFERSON	0	3	3	3
Charles Town	JEFFERSON	0	14	14	2
Harpers Ferry	JEFFERSON	1	28	29	4
Jefferson County*	JEFFERSON	3	23	26	21
Ranson	JEFFERSON	0	0	0	1
Shepherdstown	JEFFERSON	1	50	51	2
	JEFFERSON	**5**	**118**	**123**	**23**
Bath	MORGAN	2	45	47	1
Morgan County*	MORGAN	0	0	0	2
Paw Paw	MORGAN	0	0	0	0
	MORGAN	**2**	**45**	**47**	**3**
TOTAL		**13**	**177**	**190**	**46**

* Unincorporated Community

Building-Level Community Assets by Flood Depth: Community assets most vulnerable to a high-risk 1%-annual-chance (100-yr) flood event are displayed below. The flood depth grid and building damage estimates quantify the degree of risk at which facilities may be subject to the greatest flood damage.

Table CA-4. Community Assets most vulnerable to 1% Flood Depth. What is the degree of risk?

Community Name	County	Facility Name	**Facility Type**	Flood Tool Link	**Flood Depth**	Building Damage Percent
Harpers Ferry	JEFFERSON	National Park Service Information Center	**Government**	FT	31.9	78%
Boliver	JEFFERSON	Harpers Ferry Bolivar PSD Wastewater Treatment Plant	**Utilities**	FT	15.5	
Shepherdstown	JEFFERSON	Shepherd's Mill	**Utilities**	FT	12.3	55%
Shepherdstown	JEFFERSON	Shepherdstown Water Works Plant	**Utilities**	FT	2.9	16%
Jefferson County*	JEFFERSON	Millville Pentecostal Church	**Religious Institution**	FT	7.1	13%
Charles Town	JEFFERSON	City of Charles Town Wastewater Treatment Plant	**Utilities**	FT	2.1	12%
Berkeley County*	BERKELEY	Little Falls Chapel	**Religious Institution**	FT	6.4	11%
Martinsburg	BERKELEY	Holy Grace Church of God	**Religious Institution**	FT	3.4	11%
Martinsburg	BERKELEY	Roach Energy	**Utilities**	FT	3.5	10%
Martinsburg	BERKELEY	Martinsburg Sewage Treatment Plant	**Utilities**	FT	4.8	9%
Bath	MORGAN	Morgan County Courthouse	**Government**	FT	2.6	7%
Bath	MORGAN	Morgan County Public Library	**Government**	FT	2.9	7%
Shepherdstown	JEFFERSON	Shepherd University White Hall	**Education**	FT	2.0	5%
Shepherdstown	JEFFERSON	Shepherd University McMurran and Reynolds Hall	**Education**	FT	2.0	5%

* Unincorporated Community

Region 9 Tabular Building-Level Report Link: data.wvgis.wvu.edu - /pub/RA/State/BL/CommunityAsset/

Utility Facilities by Flood Depth: Utility buildings prone to a high-risk 1%-annual-chance (100-yr) flood event are displayed below. The flood depth grid and building damage estimates quantify the degree of risk at which facilities may be subject to the greatest flood damage. Located in a high-risk advisory floodplain, the **Martinsburg Sewage Treatment Plant** with an appraised value of $51,776,300 is the most expensive facility among the community assets of **Region 9**.

Table CA-5a. Utility buildings at risk of a 1% Flood. What is the degree of risk?

Community Name	County	Facility Name	**Facility Type**	Flood Tool Link	**Flood Depth**	Building Damage Percent
Boliver	JEFFERSON	Harpers Ferry Bolivar PSD Wastewater Treatment Plant	**Utilities**	FT	15.5	
Martinsburg	BERKELEY	City of Martinsburg Wastewater Treatment Plant	**Utilities**	FT	4.8	9%
Martinsburg	BERKELEY	Roach Energy	**Utilities**	FT	3.5	10%
Shepherdstown	JEFFERSON	Shepherdstown Water Works Water Treatment Plant	**Utilities**	FT	2.9	16%
Charles Town	JEFFERSON	City of Charles Town Wastewater Treatment Plant	**Utilities**	FT	2.1	12%
Martinsburg	BERKELEY	Kilmer Springs Water Filtration Plant	**Utilities**	FT	1.0	0%
Berkeley County*	BERKELEY	Big Springs Water Filtration Plant	**Utilities**	FT	0.5	
Morgan County*	MORGAN	Warm Springs PSD Wastewater Treatment Plant	**Utilities**	FT	0.4	
Jefferson County*	JEFFERSON	Harpers Ferry Water Works Treatment Facility	**Utilities**	FT	0.0	0%
Martinsburg	BERKELEY	Martinsburg Recycling Center	**Utilities**	FT	0.0	0%

* Unincorporated Community

Educational (Post-secondary) Community Assets by Flood Depth: The following table shows the post-secondary educational facilities located in the high-risk (100-yr) floodplain of **Region 9**. All three buildings belong to **Shepherd University** in Shepherdstown, Jefferson County.

Table CA-5b. Educational (Post-secondary) buildings at risk of a 1% Flood. What is the degree of risk?

Community Name	County	Facility Name	**Facility Type**	Flood Tool Link	**Flood Depth**	Building Damage Percent
Shepherdstown	JEFFERSON	Shepherd University White Hall	**Education**	FT	2.0	5%
Shepherdstown	JEFFERSON	Shepherd University McMurran and Reynolds Hall	**Education**	FT	2.0	5%
Shepherdstown	JEFFERSON	Shepherd University Human Resources	**Education**	FT	2.0	0%

Region 9 Tabular Building-Level Report Link: data.wvgis.wvu.edu - /pub/RA/State/BL/CommunityAsset/

Historical Community Assets by Flood Depth: Historical buildings most vulnerable to a high-risk 1%-annual-chance (100-yr) flood event in each county are displayed below. The flood depth grid and building damage estimates quantify the degree of risk at which facilities may be subject to the greatest flood damage. The town of **Harpers Ferry** has a history of catastrophic floods and is one of the most vulnerable communities in the State.

Table CA-6a. Jefferson County Historical buildings most vulnerable to 1% Flood Depth.

Community Name	County	Facility Name	**Facility Type**	Flood Tool Link	**Flood Depth**	Building Damage Percent
Harpers Ferry	JEFFERSON	Harpers Ferry Historic District	**National Register**	FT	33.0	78%
Harpers Ferry	JEFFERSON	Harpers Ferry Historic District	**National Register**	FT	32.8	78%
Harpers Ferry	JEFFERSON	Harpers Ferry Historic District	**National Register**	FT	32.7	78%
Harpers Ferry	JEFFERSON	Harpers Ferry Historic District	**National Register**	FT	32.1	78%
Harpers Ferry	JEFFERSON	Harpers Ferry Historic District	**National Register**	FT	31.9	78%
Harpers Ferry	JEFFERSON	Harpers Ferry Historic District	**National Register**	FT	31.7	78%
Harpers Ferry	JEFFERSON	Harpers Ferry Historic District	**National Register**	FT	31.5	78%
Harpers Ferry	JEFFERSON	Harpers Ferry Historic District	**National Register**	FT	31.3	78%
Harpers Ferry	JEFFERSON	Harpers Ferry Historic District	**National Register**	FT	31.2	78%
Harpers Ferry	JEFFERSON	Harpers Ferry Historic District	**National Register**	FT	30.5	78%
Harpers Ferry	JEFFERSON	Harpers Ferry Historic District	**National Register**	FT	29.4	78%
Harpers Ferry	JEFFERSON	Harpers Ferry Historic District	**National Register**	FT	29.1	78%
Harpers Ferry	JEFFERSON	Harpers Ferry Historic District	**National Register**	FT	28.4	78%
Harpers Ferry	JEFFERSON	Harpers Ferry Historic District	**National Register**	FT	27.9	78%
Harpers Ferry	JEFFERSON	Harpers Ferry Historic District	**National Register**	FT	26.6	75%
Harpers Ferry	JEFFERSON	Harpers Ferry Historic District	**National Register**	FT	26.1	73%
Harpers Ferry	JEFFERSON	Harpers Ferry Historic District	**National Register**	FT	25.9	72%

Table CA-6b. Morgan County Historical buildings most vulnerable to 1% Flood Depth.

Community Name	County	Facility Name	**Facility Type**	Flood Tool Link	**Flood Depth**	Building Damage Percent
Bath	MORGAN	Town of Bath Historic District	**National Register**	FT	8.3	27%
Bath	MORGAN	Town of Bath Historic District	**National Register**	FT	7.8	40%
Bath	MORGAN	Town of Bath Historic District	**National Register**	FT	7.0	16%
Bath	MORGAN	Town of Bath Historic District	**National Register**	FT	6.6	37%
Bath	MORGAN	Town of Bath Historic District	**National Register**	FT	5.5	16%
Bath	MORGAN	Town of Bath Historic District	**National Register**	FT	5.0	16%
Bath	MORGAN	Town of Bath Historic District	**National Register**	FT	4.8	8%
Bath	MORGAN	Town of Bath Historic District	**National Register**	FT	4.7	17%
Bath	MORGAN	Town of Bath Historic District	**National Register**	FT	4.4	5%
Bath	MORGAN	Town of Bath Historic District	**National Register**	FT	4.2	2%

Table CA-6c. Berkeley County buildings most vulnerable to 1% Flood Depth. What is the degree of risk?

Community Name	County	Facility Name	**Facility Type**	Flood Tool Link	**Flood Depth**	Building Damage Percent
Berkeley County*	BERKELEY	Darkesville Historic District	**National Register**	FT	5.2	22%
Berkeley County*	BERKELEY	Darkesville Historic District	**National Register**	FT	4.7	13%
Martinsburg	BERKELEY	Tuscarora Creek Historic District	**National Register**	FT	2.5	11%
Martinsburg	BERKELEY	Tuscarora Creek Historic District	**National Register**	FT	2.1	14%
Berkeley County*	BERKELEY	Darkesville Historic District	**National Register**	FT	2.1	8%
Berkeley County*	BERKELEY	Mill Creek Historic District	**National Register**	FT	1.1	4%

* Unincorporated Community

National Register Areas: The historical districts with the most buildings older than 1930 are listed below. Refer to the detailed National Register report as to which buildings contribute to the historic designation.

Table CA-7. National Register Areas with the estimated highest number of historic buildings.

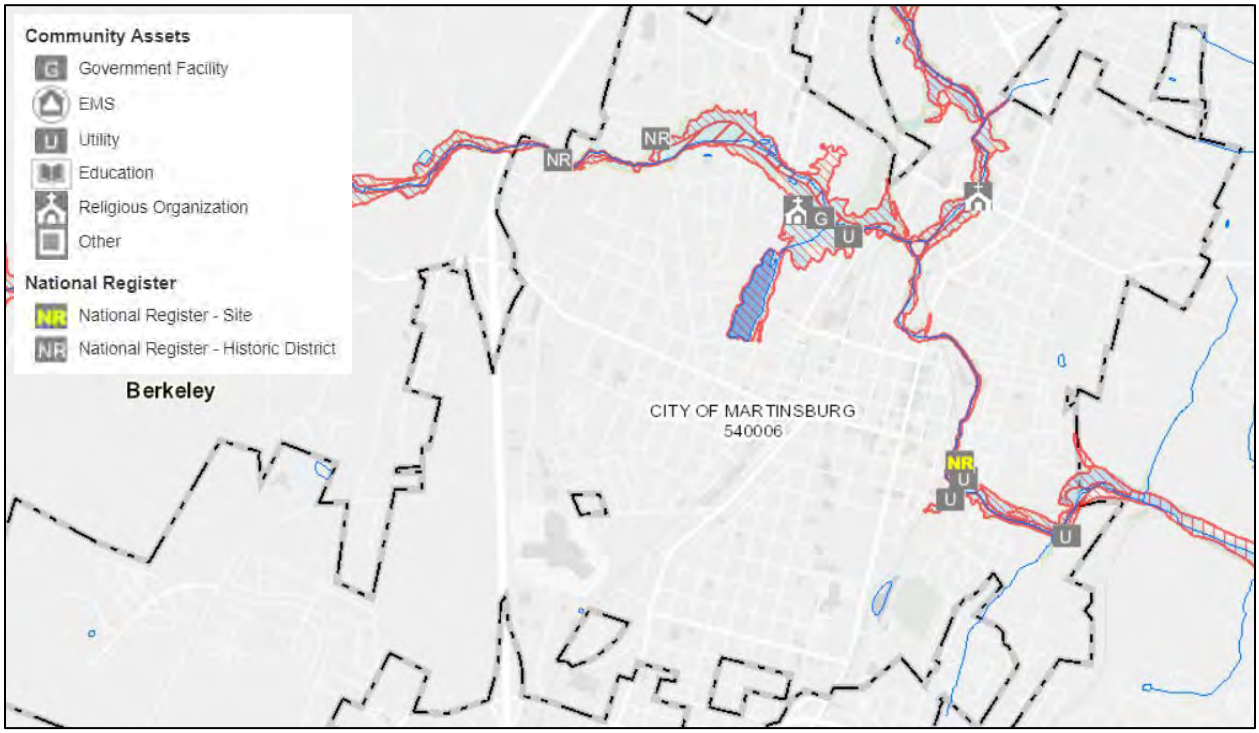
Community Name	County	Historic Name	# Bldg. Points in NR Area	Flood Tool Link
Shepherdstown	JEFFERSON	Shepherdstown Historic District (Boundary Increase)	57	FT
Bath	MORGAN	Town of Bath Historic District	45	FT
Harpers Ferry	JEFFERSON	Harpers Ferry National Historical Park	31	FT
Harpers Ferry	JEFFERSON	Harpers Ferry Historic District	28	FT
Harpers Ferry	JEFFERSON	Harpers Ferry Historic District (Additional Information)	28	FT
Shepherdstown	JEFFERSON	Shepherdstown Historic District	15	FT
Charles Town	JEFFERSON	Old Charles Town Historic District	13	FT
Jefferson County*	JEFFERSON	Middleway Historic District	9	FT
Berkeley County*	BERKELEY	Darkesville Historic District	5	FT
Berkeley County*	BERKELEY	Mill Creek Historic District	3	FT
Berkeley County*	BERKELEY	Scrabble Historic District	3	FT
Berkeley County*	BERKELEY	Tuscarora Creek Historic District	3	FT

* Unincorporated Community

Source: Region 9 National Register Name Report: data.wvgis.wvu.edu - /pub/RA/State/BL/CommunityAsset/

Verification - WV Flood Tool Risk MAP: The **WV Flood Tool's Risk MAP View** should be used to view and verify mapped community assets and other risk layers, such as the example below of Martinsburg in Berkeley County.

Figure CA-8. Community Assets in city of Martinsburg displayed on Risk MAP View of the WV Flood Tool.



WV Flood Tool Map Link: https://www.mapwv.gov/flood/map/?wkid=102100&x=-8679524&y=4787539&l=7&v=2

Verification - Tabular Report: Community Assets can also be viewed and verified for each community by linking to the risk assessment **tabular report** (Excel spreadsheet). To verify the geographic location of each facility, the Excel table provides map view links. Community Asset data fields include Community Identifiers, Building ID, Address, Facility Name, Facility Type, Specific Occupancy Code, Building Value, Building Value Source, Flood Zone, Floodway, Flood Depth, Building Damage Estimate, and Flood Tool viewer link.

Table CA-9. Community Assets for city of Martinsburg displayed in Tabular Report with map links.

Facility Name	Full Address	Facility Type	Flood Tool Link
Holy Grace Church of God	215 W Moler Ave, Martinsburg, WV, 25404	Religious Institution	FT
Roach Energy	333 E John St, Martinsburg, WV, 25401	Utilities	FT
City of Martinsburg Wastewater Treatment Plant	500 E John St, Martinsburg, WV, 25401	Utilities	FT
Tuscarora Creek Historic District	600A N TENNESSEE AVE, Martinsburg, WV, 25401	National Register - Historic District	FT
Tuscarora Creek Historic District	200 OLD MILL RD, Martinsburg, WV, 25401	National Register - Historic District	FT
Berkeley City Council Warehouse	750 Baltimore St, Martinsburg, WV, 25401	Government	FT
City of Martinsburg Kilmer Springs Water Filtration Plant	602 Baltimore St, Martinsburg, WV, 25401	Utilities	FT
Kingdom Hall of Jehovah's Witnesses	725 Baltimore St, Martinsburg, WV, 25401	Religious Institution	FT
Martinsburg Recycling Center	9999 E Stephen St, Martinsburg, WV, 25401	Utilities	FT

Region 9 Tabular Building-Level Report Link: data.wvgis.wvu.edu - /pub/RA/State/BL/CommunityAsset/

Verification with Community-Level Report: A summary report for all communities and regions can be accessed at data.wvgis.wvu.edu - /pub/RA/State/CL/Community_Asset/. See Tables CA-2 and CA-3 for sample outputs.

* * *

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ESSENTIAL FACILITIES (Region 9)

Police Station

Fire Station

E-911 Dispatch

School

Hospital

Nursing Home

Description: **Essential facilities** provide critical services to the community and include police and fire stations, E-911 emergency operations centers, schools (often used as shelters), hospitals, and nursing homes. FEMA identifies these critical facilities as *essential* in its Hazus-MH risk assessment tool. If a critical facility must be in a floodplain then it should be provided a higher level of protection so that it can continue to function and provide services after the flood. Communities should develop emergency plans to continue to provide these services during the flood.

Under Executive Order 11988, Floodplain Management, Federal agencies funding and/or permitting critical facilities are required to avoid the 0.2 percent (500-year) floodplain or protect the facilities to the 0.2 percent chance flood level.

Community Engagement and Verification:

Review the accuracy and completeness of all *active* **essential facilities**. Report any facilities that are missing. Verify the facilities and location using the Table and RiskMAP View of the WV Flood Tool.

Table EF-1. Essential Facility Types and Qualification Criteria for Statewide Risk Assessment

Essential Facility	Police Station	Fire Station	Emergency Operations Center	K-12 School	Hospital	Nursing Home
Qualification	Police Cars	Fire Trucks	E-911 Dispatch Office	Classrooms of students (public or private)	Inpatients	Staffed continuously for 24-hour medical supervision
FEMA Lifeline Component	Law Enforcement and Security	Fire Service	911 and Dispatch	Government Service, Shelter	Medical Care (Public Health)	Medical Care (Long-Term Facilities)

Community Lifelines: FEMA recently developed the community lifelines construct to increase effectiveness in disaster operations and better position the Agency to respond to catastrophic incidents. Community lifelines cover seven sectors: Safety and Security; Food, Water, Shelter; Health and Medical; Energy; Communications; Transportation; and Hazardous Material. Essential facilities are identified by six of the FEMA Lifeline Components (Table EF-1). Refer to other state risk assessment reports for additional information on housing, shelters, flood control (dams, levees), highways, railways, bridges, and other hazards (landslides).

Other Related Risk Layers: Primary Structures, Essential Facilities, Transportation, Dams, Levees

Bringing Lifelines into Hazard Mitigation Planning: Slides | Audio | Fact Sheet | BRIC | FEMA Website

Critical Facilities: Definition | Critical Facilities and Higher Standards

Essential Facilities by Type: Eighteen percent (18%) or 2 of the 11 flood-prone communities in **Region 9** have essential facilities vulnerable to flooding. The county with the most essential facilities is **Morgan County** (ranked 26th for all counties), while the incorporated town with the highest number of facilities is **Bath** (ranked 50th for all municipalities in State) in Morgan County. Hospitals and nursing homes with immobile patients or residents are particularly vulnerable to a flood disaster. Small towns situated mostly in the floodplain are more challenged than unincorporated areas or larger cities to identify suitable sites that provide a high level of protection from flooding.

Table EF-2. Essential Facilities by Type vulnerable to riverine flood.

COMMUNITY IDENTIFICATION			ESSENTIAL FACILITIES						
CID	**Community Name**	**County**	**Police Station**	**Fire Station**	**911 Center**	**School**	**Hospital**	**Nursing Home**	**TOTAL**
540282	Berkeley County*	BERKELEY	0	0	0	0	0	0	0
540006	Martinsburg	BERKELEY	0	0	0	0	0	0	0
SUM		**BERKELEY**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
540030	Bolivar	JEFFERSON	0	0	0	0	0	0	0
540066	Charles Town	JEFFERSON	0	0	0	0	0	0	0
540067	Harpers Ferry	JEFFERSON	0	0	0	0	0	0	0
540065	Jefferson County*	JEFFERSON	0	0	0	0	0	0	0
540068	Ranson	JEFFERSON	0	0	0	0	0	0	0
540069	Shepherdstown	JEFFERSON	0	0	0	0	0	0	0
SUM		**JEFFERSON**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
540005	Bath (Ranked 50th for all municipalities in State)	MORGAN	0	1	1	0	0	0	2
540144	Morgan County*	MORGAN	1	0	0	3	0	0	4
540252	Paw Paw	MORGAN	0	0	0	0	0	0	0
SUM	**Ranked 26th in State**	**MORGAN**	**1**	**1**	**1**	**3**	**0**	**0**	**6**
TOTAL			**1**	**1**	**1**	**3**	**0**	**0**	**6**

* Unincorporated Community

Essential Facilities by Flood Zone: Two essential facilities are in the Regulatory Floodway, or the main channel of the river or stream where floodwaters are likely the deepest and with the highest velocities. There are 4 facilities in the high-risk *effective* 1%-annual-chance (100-yr) floodplains. No essential facilities exist in the Regulatory Floodway or in the moderate-risk 0.2%-annual-chance (500-yr) floodplain.

Table EF-3. Essential Facilities by Flood Zone. What is at risk?

COMMUNITY IDENTIFICATION			FLOOD ZONE BREAKDOWN				
			1%-Annual-Chance (100-yr) Floodplain			0.2% (500-yr) Floodplain	High & Moderate Risk
CID	**Community Name**	**County**	**Floodway**	**Effective**	Advisory	Effective	**TOTAL**
540282	Berkeley County*	BERKELEY	0	0	0	0	0
540006	Martinsburg	BERKELEY	0	0	0	0	0
SUM		**BERKELEY**	**0**	**0**	**0**	**0**	**0**
540030	Bolivar	JEFFERSON	0	0	0	0	0
540066	Charles Town	JEFFERSON	0	0	0	0	0
540067	Harpers Ferry	JEFFERSON	0	0	0	0	0
540065	Jefferson County*	JEFFERSON	0	0	0	0	0
540068	Ranson	JEFFERSON	0	0	0	0	0
540069	Shepherdstown	JEFFERSON	0	0	0	0	0
SUM		**JEFFERSON**	**0**	**0**	**0**	**0**	**0**
540005	Bath	MORGAN	0	2	0	0	2
540144	Morgan County*	MORGAN	2	2	0	0	4
540252	Paw Paw	MORGAN	0	0	0	0	0
SUM		**MORGAN**	**2**	**4**	**0**	**0**	**6**
TOTAL			**2**	**4**	**0**	**0**	**6**

* Unincorporated Community

Essential Facilities by Flood Depth: Facilities most vulnerable to a high-risk 1%-annual-chance (100-yr) flood event are displayed below. The flood depth grid and building damage estimates identify which facilities may be subject to the greatest flood damage. Refer to the building-level Table and RiskMAP View of the WV Flood Tool to review base flood depths and damage estimates of facilities.

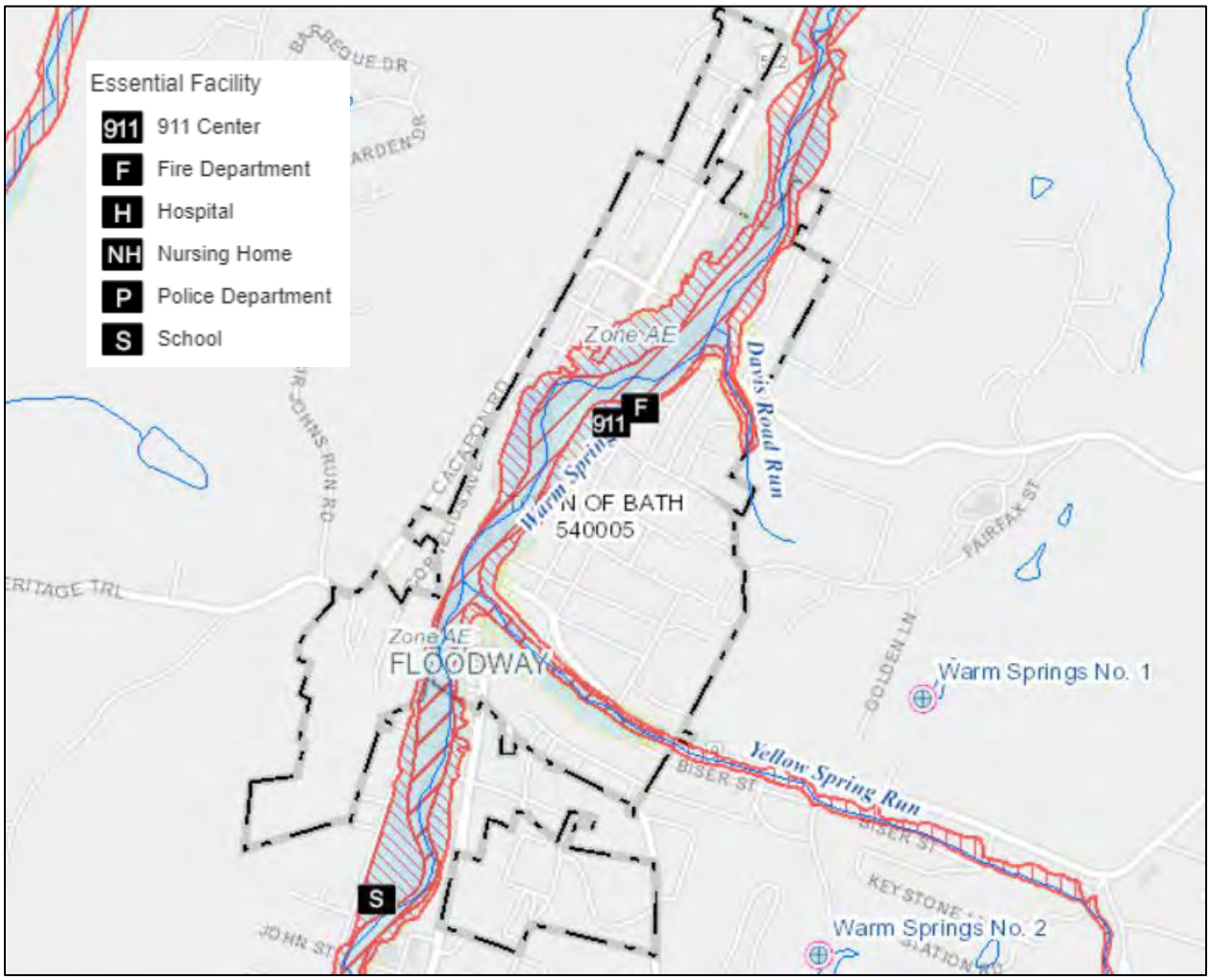
Table EF-4. Essential Facilities by 1% Flood Depth. What is the degree of risk?

Community Name	County	Facility Name	**Facility Type**	Flood Tool Link	**Flood Depth**	Building Damage Percent
Morgan County*	MORGAN	Berkeley Springs High School	**School**	FT	1.4	1.9
Morgan County*	MORGAN	Berkeley Springs High School	**School**	FT	1.1	0.6
Morgan County*	MORGAN	WV State Police Troop 2	**Police Station**	FT	0.2	0.0
Morgan County*	MORGAN	Berkeley Springs High School	**School**	FT	0.1	0.0
Bath	MORGAN	Morgan County 911 Center	**911 Center**	FT	0.0	0.0
Bath	MORGAN	Berkeley Springs Volunteer Fire Department	**Fire Station**	FT	0.0	0.0

* Unincorporated Community

Verification - WV Flood Tool Risk MAP: The **WV Flood Tool Risk Map View** should be used to view and verify mapped essential facilities and other risk layers, such as the example below of Bath in Morgan County.

Figure EF-5. Essential Facilities in town of Bath displayed on Risk MAP View of the WV Flood Tool.



WV Flood Tool Map Link: https://www.mapwv.gov/flood/map/?wkid=102100&x=-8707877&y=4811595&l=8&v=2

Verification - Tabular Report: Essential facilities can also be viewed and verified for each community by linking to the risk assessment **tabular report** (Excel spreadsheet). To verify the geographic location of each facility, the Excel table provides map view links. Essential facility data fields include Community Identifiers, Building ID, Address, Facility Type, Occupancy Code, Building Value, Building Value Source, Floodplain, Floodway, and Flood Tool Link.

Table EF-6. Essential Facilities for town of Bath displayed in Tabular Report with map links.

Facility Name	Full Address	Facility Type	Flood Tool Link
Morgan County 911 Center	111 FAIRFAX ST, BERKELEY SPRINGS, WV, 25411	**911 Center**	FT
Berkeley Springs Volunteer Fire Department	34 N MERCER ST, BERKELEY SPRINGS, WV, 25411	**Fire Station**	FT

Region 9 Tabular Report Link: data.wvgis.wvu.edu - /pub/RA/State/BL/EssentialFacility/

Verification with Community-Level Report: A summary report for all communities and regions can be accessed at data.wvgis.wvu.edu - /pub/RA/State/CL/Essential_Facility/. See Tables EF-2 and EF-3 for sample outputs.

* * *

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WV Emergency Management Division
- Brian Penix, State Hazard Mitigation Project Officer (Brian.M.Penix@wv.gov)
- Tim Keaton, State Hazard Mitigation Planner (Tim.W.Keaton@wv.gov)
- Kevin Sneed, CTP Coordinator (Kevin.L.Sneed@wv.gov)
- Nuvia E. Villamizar, GIS Manager (nuvia.e.villamizar@wv.gov)

Appendix F: Critical Facilities

JEFFERSON COUNTY ASSET LIST																		
Community Asset	*Address*	*Asset Type*	*Public Health Crisis*	*Extreme Temperatures*	*Landslide*	*Severe Wind & Tornado*	*Wild & Urban Fire*	*Flood*	*Hazardous Materials*	*Invasive Species*	*Land Subsidence*	*Severe Thunderstorms*	*Earthquake*	*Violent Disturbance*	*Dam Failure*	*Drought*	*Severe Winter Storm*	*Terrorism*
Ryneal Medical Transport	120 Commerce Circle, Suite 200	Ambulance	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	M
Jefferson County Emergency Services Agency	419 16th Avenue	Ambulance	N/A	N/A	M	M	L	L	H	N/A	M	M	L	M	L	N/A	M	M
Bethesda United Methodist Church	22 Knott Road	Church	N/A	N/A	M	M	L	L	L	N/A	H	M	L	L	L	N/A	M	L
Chestnut Hill United Methodist Church	1523 Hostler Road	Church	N/A	N/A	M	M	M	L	L	N/A	L	M	L	L	L	N/A	M	L
Daisy's Chapel	20 Daisys Chapel Way	Church	N/A	N/A	M	M	M	L	L	N/A	L	M	L	L	L	N/A	M	L
Mission Tabernacle Church	25 Tabernacle Lane	Church	N/A	N/A	M	M	M	L	L	N/A	L	M	L	L	L	N/A	M	L
Silver Grove United Methodist Church	27 Church Hill Lane	Church	N/A	N/A	M	M	M	L	L	N/A	L	M	L	L	L	N/A	M	L
St. Andrew's on the Mount Episcopal Church	65 Mission Road	Church	N/A	N/A	M	M	M	L	L	N/A	L	M	L	L	L	N/A	M	L
Murrill Hill United Methodist Church	18239 Charles Town Road	Church	N/A	N/A	M	M	M	L	M	N/A	L	M	L	L	L	N/A	M	L
Galilean Baptist Church	325 Sandpiper Lane	Church	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
St. James Catholic Church	49 Crosswinds Drive	Church	N/A	N/A	M	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Zion Chapel Independent Church	1581 Engle Molers Road	Church	N/A	N/A	M	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Crossroads Church	7595 Martinsburg Pike	Church	N/A	N/A	L	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
Charles Town Presbyterian Church	1315 Wheatland Road	Church	N/A	N/A	M	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
Elk Branch Presbyterian Church	5229 Flowing Springs Road	Church	N/A	N/A	M	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
Halltown Church of God	88 Henkle Moore Road	Church	N/A	N/A	M	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
Methodist Church	1563 Engle Switch Road	Church	N/A	N/A	M	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
Mount Zion African Methodist Episcopal Church	5014 Flowing Springs Road	Church	N/A	N/A	M	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
New School Baptist Church	30 Long Street	Church	N/A	N/A	M	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
St. James Lutheran Church	4338 Shepherdstown Pike	Church	N/A	N/A	M	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
St. John's Episcopal Church	2518 Berryville Pike	Church	N/A	N/A	M	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
Uvilla United Methodist Church	4179 Shepherdstown Pike	Church	N/A	N/A	M	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
Grace Episcopal Church	159 East Street	Church	N/A	N/A	L	M	L	L	L	N/A	L	M	M	L	L	N/A	M	L
Prosperity Baptist Church	194 Jamestown Road	Church	N/A	N/A	L	M	L	L	L	N/A	M	M	M	L	L	N/A	M	L
Freewill Baptist Church	47 Storer College Place	Church	N/A	N/A	M	M	L	L	L	N/A	L	M	L	L	L	N/A	M	M
St. Peter's Catholic Church	100 Church Street	Church	N/A	N/A	M	M	L	L	L	N/A	L	M	L	L	L	N/A	M	M
St. Agnes Catholic Church	200 South Duke Street	Church	N/A	N/A	L	M	L	L	M	N/A	M	M	L	L	L	N/A	M	M
St. John's Baptist Church	318 West German Street	Church	N/A	N/A	L	M	L	L	M	N/A	M	M	L	L	L	N/A	M	M
Zion Baptist Church	819 Martin Luther King, Jr. Avenue	Church	N/A	N/A	M	M	L	L	M	N/A	M	M	L	L	L	N/A	M	M
Grace Evangelical Reformed Church	421 Kearneysville Pike	Church	N/A	N/A	L	M	L	L	M	N/A	M	M	M	L	L	N/A	M	M
Asbury United Methodist Church, Charles Town	110 West North Street	Church	N/A	N/A	L	M	L	L	H	N/A	M	M	L	M	L	N/A	M	M
Charles Town Baptist Church	203 East Congress Street	Church	N/A	N/A	M	M	L	L	H	N/A	M	M	L	M	L	N/A	M	M
House of Prayer Church of God	501 West Congress Street	Church	N/A	N/A	M	M	L	L	H	N/A	M	M	L	M	L	N/A	M	M
Wainwright Baptist Church	413 West Avis Street	Church	N/A	N/A	M	M	L	L	H	N/A	M	M	L	M	L	N/A	M	M
Zion Episcopal Church	301 East Congress Street	Church	N/A	N/A	M	M	L	L	H	N/A	M	M	L	M	L	N/A	M	M
Charles Town Presbyterian Church	220 East Washington Street	Church	N/A	N/A	M	M	L	L	L	N/A	M	M	L	M	L	N/A	M	M
Christ Reformed Church	304 East German Street	Church	N/A	N/A	L	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
New Street United Methodist Church	202 West New Street	Church	N/A	N/A	L	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
Catholic Church, Charles Town	301 South George Street	Church	N/A	N/A	M	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
St. Bartholomew's Episcopal Church	11978 Leetown Road	Church	N/A	N/A	L	M	L	L	M	N/A	M	M	M	M	L	N/A	M	M
KOA Campground	343 Campground Road	Commercial	N/A	N/A	M	M	L	L	L	N/A	L	M	L	M	L	N/A	M	L
Jefferson County Fairgrounds	867 Fairground Lane	Commercial	N/A	N/A	L	M	L	L	L	N/A	M	M	L	M	L	N/A	M	L
Walmart	96 Patrick Henry Way	Commercial	N/A	N/A	M	M	L	L	L	N/A	M	M	L	M	L	N/A	M	L

JEFFERSON COUNTY ASSET LIST

Community Asset	*Address*	*Asset Type*	*Public Health Crisis*	*Extreme Temperatures*	*Landslide*	*Severe Wind & Tornado*	*Wild & Urban Fire*	*Flood*	*Hazardous Materials*	*Invasive Species*	*Land Subsidence*	*Severe Thunderstorms*	*Earthquake*	*Violent Disturbance*	*Dam Failure*	*Drought*	*Severe Winter Storm*	*Terrorism*
RAI Properties	179 East Burr Boulevard, Unit M	Commercial	N/A	N/A	L	M	L	L	M	N/A	M	M	L	M	L	N/A	M	L
Hampton Inn Hotel	157 Pimlico Drive	Commercial	N/A	N/A	M	M	L	L	M	N/A	M	M	L	M	L	N/A	M	L
Hollywood Casino at Charles Town Races	750 Hollywood Drive	Commercial	N/A	N/A	M	M	L	L	H	N/A	M	M	L	M	L	N/A	M	M
Inn at Charles Town	100 Hollywood Drive	Commercial	N/A	N/A	M	M	L	L	H	N/A	M	M	L	M	L	N/A	M	M
Clarion Hotel, Route 480	233 Lowe Drive	Commercial	N/A	N/A	L	M	L	L	L	N/A	M	M	L	M	L	N/A	M	M
Jefferson Rentals	412 West Burr Boulevard	Commercial	N/A	N/A	L	M	L	L	L	N/A	M	M	L	M	L	N/A	M	M
Home Depot Store	230 Oak Lee Drive	Commercial	N/A	N/A	M	M	L	L	L	N/A	M	M	L	M	L	N/A	M	M
Bavarian Inn and Lodge	164 Shepherd Grade Road	Commercial	N/A	N/A	L	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
KRM Associates	207 South Princess Street, Suite 204	Commercial	N/A	N/A	L	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
Schonstedt Instruments	100 Edmond Road	Commercial	N/A	N/A	L	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
Holiday Inn Express Hotel, Ranson	681 Flowing Springs Road	Commercial	N/A	N/A	M	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
Home2 Suites	70 Jefferson Crossing Way	Commercial	N/A	N/A	M	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
Jefferson County Chamber of Commerce	201 East Washington Street	Commercial	N/A	N/A	M	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
Southern States, Ranson	222 North Mildred Street	Commercial	N/A	N/A	M	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
WVU Urgent Care	912 Somerset Boulevard, Suite 102	Community Health Provider	N/A	N/A	M	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
Harpers Ferry Family Medicine	171 Taylor Street	Community Health Provider	N/A	N/A	M	M	L	L	L	N/A	L	M	L	M	L	N/A	M	L
Behavioral Health Services	130 Augustine Avenue	Community Health Provider	N/A	N/A	M	M	L	L	H	N/A	M	M	L	M	L	N/A	M	M
Jefferson County Health Department	1948 Wiltshire Road, Suite 1	Community Health Provider	N/A	N/A	L	M	L	L	L	N/A	M	M	L	M	L	N/A	M	M
Valley Health Urgent Care	100 Oak Lee Drive	Community Health Provider	N/A	N/A	M	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
Jefferson County Courthouse	100 East Washington Street	Courthouse	N/A	N/A	M	M	H	L	M	N/A	M	M	L	M	L	N/A	M	M
Lake Shannondale Dam	near 1780 Lakeside Drive	Dam	N/A	N/A	M	M	H	L	L	N/A	L	M	L	L	H	N/A	H	L
Shenandoah River Dam	near 2424 Bloomery Road	Dam	N/A	N/A	M	M	L	H	L	N/A	L	M	L	L	L	N/A	M	L
Dam Four - Potomac River	near 890 Dam 4 Road	Dam	N/A	N/A	L	M	L	L	L	N/A	L	M	L	L	L	N/A	M	L
Jefferson County 911 Emergency Communications Center	28 Indstrial Boulevard, Suite 100	Emergency	N/A	N/A	L	M	L	L	H	N/A	M	M	L	L	L	N/A	M	L
Jefferson County Homeland Security & Emergency Management	28 Industrial Boulevard, Suite 101	Emergency	N/A	N/A	L	M	L	L	H	N/A	M	M	L	L	L	N/A	M	L
American Red Cross	1948 Wiltshire Road, Suite 2	Emergency	N/A	N/A	L	M	L	L	L	N/A	M	M	L	M	L	N/A	M	M
Blue Ridge Fire Company	181 Keyes Gap Road	Fire Department	N/A	N/A	M	M	M	L	L	N/A	L	M	L	L	L	N/A	M	L
Bakerton Fire Company 7	891 Carter Avenue	Fire Department	N/A	N/A	M	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Shepherdstown Fire Company	8052 Martinsburg Pike	Fire Department	N/A	N/A	L	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
Middleway Fire Company	110 Dark Hill Road	Fire Department	N/A	N/A	L	M	L	L	L	N/A	M	M	M	L	L	N/A	M	L
Citizens Fire Company	245 Citizens Way	Fire Department	N/A	N/A	M	M	L	L	L	N/A	M	M	L	L	L	N/A	M	M
Friendship Fire Company 1	1050 West Washington Street	Fire Department	N/A	N/A	M	M	L	L	L	N/A	L	M	L	M	L	N/A	M	M
Independent FIre Company	200 West Second Avenue	Fire Department	N/A	N/A	M	M	H	L	M	N/A	M	M	L	M	L	N/A	M	M
Boliver Town Hall	60 Panama Street	Government	N/A	N/A	M	M	H	L	L	N/A	L	M	L	M	L	N/A	M	L
NCTC	698 Conservation Way	Government	N/A	N/A	L	M	L	L	L	N/A	M	M	L	M	L	N/A	M	L
Job Corps Administration	146 Buffalo Drive	Government	N/A	N/A	M	M	L	L	L	N/A	M	M	L	M	L	N/A	M	L
US Customs & Border Protection	440 Koonce Road, Building 30	Government	N/A	N/A	M	M	L	L	L	N/A	M	M	L	M	L	N/A	M	L
Department of Health and Human Services	239 Willow Spring Drive	Government	N/A	N/A	M	M	L	L	M	N/A	M	M	L	M	L	N/A	M	L
Kearneysville Tree Fruit Research & Education Center	67 Apple Harvest Lane	Government	N/A	N/A	L	M	L	L	L	N/A	M	M	M	M	L	N/A	M	L
Harpers Ferry Town Hall	1000 West Washington Street, Suite 200 (Harpers Ferry)	Government	N/A	N/A	M	M	L	L	L	N/A	L	M	L	M	L	N/A	M	M
United States Coast Guard	941 James Burr Boulevard	Government	N/A	N/A	L	M	L	L	H	N/A	M	M	L	M	L	N/A	M	M

JEFFERSON COUNTY ASSET LIST																		
Community Asset	*Address*	*Asset Type*	*Public Health Crisis*	*Extreme Temperatures*	*Landslide*	*Severe Wind & Tornado*	*Wild & Urban Fire*	*Flood*	*Hazardous Materials*	*Invasive Species*	*Land Subsidence*	*Severe Thunderstorms*	*Earthquake*	*Violent Disturbance*	*Dam Failure*	*Drought*	*Severe Winter Storm*	*Terrorism*
N/A	N/A	Government	N/A	N/A	M	M	L	L	H	N/A	M	M	L	M	L	N/A	M	M
United States Department of Agriculture, Ranson	209 East 3rd Avenue	Government	N/A	N/A	M	M	L	L	H	N/A	M	M	L	M	L	N/A	M	M
Shepherdstown Town Hall	104 North Kind Street, Suite 200	Government	N/A	N/A	L	M	H	L	M	N/A	M	M	L	M	L	N/A	M	M
Charles Town City Hall	101 East Washington Street	Government	N/A	N/A	M	M	H	L	M	N/A	M	M	L	M	L	N/A	M	M
Ranson City Hall	312 South Mildred Street	Government	N/A	N/A	M	M	H	L	M	N/A	M	M	L	M	L	N/A	M	M
Department of Motor Vehicles	24 Ruland Road	Government	N/A	N/A	L	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
United States Department of Agriculture	11861 Leetown Road	Government	N/A	N/A	L	M	L	L	M	N/A	M	M	M	M	L	N/A	M	M
USGS Leetown Science Center	11649 Leetown Road	Government	N/A	N/A	L	M	L	L	M	N/A	M	M	M	M	L	N/A	M	M
Linden Spring	4995 Engle Molers Road	Historical Sites	N/A	N/A	M	M	L	H	L	N/A	H	M	L	L	L	N/A	M	L
Elmwood	7633 Flowing Springs Road	Historical Sites	N/A	N/A	L	M	L	H	L	N/A	M	M	L	L	L	N/A	M	L
Beverley	141 Burns Farm Road	Historical Sites	N/A	N/A	M	M	L	H	L	N/A	M	M	L	L	L	N/A	M	L
Shannondale Springs	Shannondale Springs Road	Historical Sites	N/A	N/A	M	M	M	H	L	N/A	M	M	L	L	L	N/A	M	L
Belle Vue	292 Shepherd Grade Road	Historical Sites	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Cedar Lawn	1303 Earle Road	Historical Sites	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Cold Spring	7353 Flowing Springs Road	Historical Sites	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Fruit Hill	768 Fruit Hill Lane	Historical Sites	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Glen Burnie	2587 Ridge Road	Historical Sites	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Hazelfield	1633 Warm Springs Road	Historical Sites	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Rion Hall	1850 William L. Wilson Freeway	Historical Sites	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Rock Spring, Ridge Road	2000 Ridge Road	Historical Sites	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Rose Hill, Edgewood	284 Edgewood School Road	Historical Sites	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Snow Hill / Poor House	162 Poor Farm Road	Historical Sites	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Windward	743 Windward Lane	Historical Sites	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Woodberry	727 Hite Road	Historical Sites	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Woodlawn	1032 Wiltshire Road	Historical Sites	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
York Hill	1583 Ridge Road	Historical Sites	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Blakeley	24 Blakeley Farm Lane	Historical Sites	N/A	N/A	M	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Halltown Chapel	Halltown Road (near 398)	Historical Sites	N/A	N/A	M	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Media Farm	261 Media Farm Lane	Historical Sites	N/A	N/A	M	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
The Hermitage	6338 Kabletown Road	Historical Sites	N/A	N/A	M	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Caledonia	8168 Middleway Pike	Historical Sites	N/A	N/A	L	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
White House	3735 Summit Point Road	Historical Sites	N/A	N/A	L	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
Allstadt House	227 Allstadts Hill Road	Historical Sites	N/A	N/A	M	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
Beall-Air	480 Beallair Manor Drive	Historical Sites	N/A	N/A	M	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
The Bower	822 Bowers Road	Historical Sites	N/A	N/A	L	M	L	L	L	N/A	L	M	M	L	L	N/A	M	L
Tudor Hall	6274 Middleway Pike	Historical Sites	N/A	N/A	L	M	L	L	L	N/A	L	M	M	L	L	N/A	M	L
Allemong House	778 Hardesty Road	Historical Sites	N/A	N/A	L	M	L	L	L	N/A	M	M	M	L	L	N/A	M	L
Traveller's Rest	4529 Bowers Road	Historical Sites	N/A	N/A	L	M	L	L	L	N/A	M	M	M	L	L	N/A	M	L
Peter Burr House	176 East Burr Boulevard	Historical Sites	N/A	N/A	L	M	L	L	M	N/A	M	M	L	M	L	N/A	M	L
Potomac Mills	near River Road & Trough Road	Historical Sites	N/A	N/A	L	M	L	H	L	N/A	M	M	L	L	M	N/A	M	L
Church St. and Jefferson Rock Trail	110 Church Street	Historical Sites	N/A	N/A	M	M	L	L	L	N/A	L	M	L	L	L	N/A	M	M
Storer College	51 Mather Place	Historical Sites	N/A	N/A	M	M	L	L	L	N/A	L	M	L	L	L	N/A	M	M
Strider House	402 Elk Run Estates Drive	Historical Sites	N/A	N/A	M	M	L	L	H	N/A	M	M	L	L	L	N/A	M	M

JEFFERSON COUNTY ASSET LIST

Community Asset	*Address*	*Asset Type*	*Public Health Crisis*	*Extreme Temperatures*	*Landslide*	*Severe Wind & Tornado*	*Wild & Urban Fire*	*Flood*	*Hazardous Materials*	*Invasive Species*	*Land Subsidence*	*Severe Thunderstorms*	*Earthquake*	*Violent Disturbance*	*Dam Failure*	*Drought*	*Severe Winter Storm*	*Terrorism*
Unknown	515 South Samuel Street	Historical Sites	N/A	N/A	M	M	L	L	H	N/A	M	M	L	L	L	N/A	M	M
Hopewell	1799 Bloomery Road	Historical Sites	N/A	N/A	M	M	L	L	L	N/A	M	M	L	L	L	N/A	M	M
Rockland	2097 Kearneysville Pike	Historical Sites	N/A	N/A	L	M	L	H	M	N/A	M	M	L	L	L	N/A	M	M
Aspen Hill	1965 North Mildred Street	Historical Sites	N/A	N/A	L	M	L	L	M	N/A	M	M	L	L	L	N/A	M	M
Piedmont	296 Piedmont Lane	Historical Sites	N/A	N/A	L	M	L	L	M	N/A	M	M	L	L	L	N/A	M	M
Claymount Court	577 Claymont Mansion Drive	Historical Sites	N/A	N/A	M	M	L	L	M	N/A	M	M	L	L	L	N/A	M	M
Little Elmington	1865 Old Cave Road	Historical Sites	N/A	N/A	M	M	L	L	M	N/A	M	M	L	L	L	N/A	M	M
Prato Rio	11221 Leetown Road	Historical Sites	N/A	N/A	L	M	L	L	M	N/A	L	M	M	L	L	N/A	M	M
Sunnyside, Leetown Road	235 William Fulk Lane	Historical Sites	N/A	N/A	L	M	L	L	L	N/A	M	M	M	L	L	N/A	M	M
Rellim	14866 Leetown Road	Historical Sites	N/A	N/A	L	M	L	L	M	N/A	M	M	M	L	L	N/A	M	M
Happy Retreat Historic Home	600 Mordington Avenue	Historical Sites	N/A	N/A	M	M	L	L	H	N/A	M	M	L	M	L	N/A	M	M
Charles Washington Hall	100 West Washington Street	Historical Sites	N/A	N/A	M	M	H	L	M	N/A	M	M	L	M	L	N/A	M	M
Old Opera House	204 North George Street	Historical Sites	N/A	N/A	M	M	H	L	M	N/A	M	M	L	M	L	N/A	M	M
Rose Brake	4704 Kearneysville Pike	Historical Sites	N/A	N/A	L	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
Entler Hotel	129 East German Street	Historical Sites	N/A	N/A	L	M	H	H	M	N/A	M	M	L	M	M	N/A	M	M
Jefferson Memorial Hospital	300 South Preston Street	Hospital	N/A	N/A	M	M	H	L	H	N/A	M	M	L	M	L	N/A	M	M
Millville Quarry, Aggregate Industries	57 Blair Road, Building A	Industrial	N/A	N/A	M	M	L	H	M	N/A	M	M	L	L	H	N/A	M	L
Jefferson Asphalt	170 John J. Thomas Way	Industrial	N/A	N/A	L	M	L	H	M	N/A	M	M	L	L	L	N/A	M	L
Duffields Train Station	5057 Flowing Springs Road	Industrial	N/A	N/A	M	M	L	H	M	N/A	M	M	L	L	L	N/A	M	L
Lowe Products	777 Potomac Farms Drive	Industrial	N/A	N/A	L	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
Ox Paperboard Company Offices	164 Eyster Road	Industrial	N/A	N/A	M	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
Summit Point Motorsports Park	201 Motorsports Park Circuit	Industrial	N/A	N/A	L	M	L	L	L	N/A	M	M	M	L	L	N/A	M	L
DALB, Inc.	73 Indstrial Boulevard	Industrial	N/A	N/A	L	M	L	L	H	N/A	M	M	L	L	L	N/A	M	M
Dr. Pepper Mountain Dew Bottling Company	180 Wescott Drive	Industrial	N/A	N/A	L	M	L	L	H	N/A	M	M	L	L	L	N/A	M	M
Moutain State Machine Tool	735 McGarry Boulevard	Industrial	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	M
Royal Vendors	426 Indstrial Boulevard	Industrial	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	M
Universal Forest Products, Burr Park	655 McGarry Boulevard	Industrial	N/A	N/A	L	M	L	L	L	N/A	L	M	L	M	L	N/A	M	M
Automated Merchandising Systems	255 West Burr Boulevard	Industrial	N/A	N/A	L	M	L	L	L	N/A	M	M	L	M	L	N/A	M	M
Randox	515 Industrial Boulevard, Suite 100	Industrial	N/A	N/A	L	M	L	L	L	N/A	M	M	L	M	L	N/A	M	M
Harpers Ferry MARC Train Station	182 Potomac Street	Industrial	N/A	N/A	L	M	L	L	L	N/A	L	M	L	L	M	N/A	M	M
South Jefferson Public Library	49 Church Street (Summit Point)	Library	N/A	N/A	L	M	L	L	M	N/A	M	M	M	L	L	N/A	M	L
Bolivar-Harpers Ferry Public Library	151 Polk Street	Library	N/A	N/A	M	M	H	L	L	N/A	L	M	L	M	L	N/A	M	L
Shepherdstown Public Library	100 East German Street	Library	N/A	N/A	L	M	H	L	M	N/A	M	M	L	M	L	N/A	M	M
Charles Town Public Library	200 East Washington Street	Library	N/A	N/A	M	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
Canterbury Center	80 Maddex Drive	Nursing Home	N/A	N/A	L	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
Genesis Health, Shenandoah Center	50 Mulberry Tree Street	Nursing Home	N/A	N/A	M	M	L	L	H	N/A	M	M	L	L	L	N/A	M	M
Willow Tree Manor	1263 South George Street	Nursing Home	N/A	N/A	M	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
Charles Town Troop 2 Headquarters-WV State Police	409 Industrial Boulevard (Kearneysville)	Police Department	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	M
Jefferson County Sheriff's Office	102 Industrial Boulevard (Kearneysville)	Police Department	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	M
Shepherd University Police	133 Campus Hill Drive, Moler Hall	Police Department	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	M
Harpers Ferry Police Dept	1000 West Washington Street, Suite 100 (Harpers Ferry)	Police Department	N/A	N/A	M	M	L	L	L	N/A	L	M	L	M	L	N/A	M	M
Charles Town Police Dept.	114 West Liberty Street (Charles Town)	Police Department	N/A	N/A	M	M	H	L	H	N/A	M	M	L	M	L	N/A	M	M

JEFFERSON COUNTY ASSET LIST																		
Community Asset	*Address*	*Asset Type*	*Public Health Crisis*	*Extreme Temperatures*	*Landslide*	*Severe Wind & Tornado*	*Wild & Urban Fire*	*Flood*	*Hazardous Materials*	*Invasive Species*	*Land Subsidence*	*Severe Thunderstorms*	*Earthquake*	*Violent Disturbance*	*Dam Failure*	*Drought*	*Severe Winter Storm*	*Terrorism*
Shepherdstown Police Dept	104 North King Street, Suite 100 (Shepherdstown)	Police Department	N/A	N/A	L	M	H	L	M	N/A	M	M	L	M	L	N/A	M	M
Ranson Police Dept	700 North Preston Street	Police Department	N/A	N/A	M	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
Bakerton Post Office	834 Carter Avenue	Post Office	N/A	N/A	M	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Halltown Post Office	402 Shepherdstown Pike	Post Office	N/A	N/A	M	M	L	H	M	N/A	M	M	L	L	L	N/A	M	L
Rippon Post Office	2468 Berryville Pike, Suite 100	Post Office	N/A	N/A	L	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
Shenandoah Junction Post Office	360 1st Street	Post Office	N/A	N/A	L	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
Summit Post Post Office	117 Hawthorne Avenue	Post Office	N/A	N/A	L	M	L	L	M	N/A	M	M	M	L	L	N/A	M	L
Ranson Post Office	205 Ambrose Drive	Post Office	N/A	N/A	M	M	L	L	L	N/A	M	M	L	L	L	N/A	M	M
Kearneysville Post Office	5512 Charles Town Road	Post Office	N/A	N/A	L	M	L	L	M	N/A	M	M	M	L	L	N/A	M	M
Harpers Ferry Post Office	1010 West Washington Street	Post Office	N/A	N/A	M	M	L	L	L	N/A	L	M	L	M	L	N/A	M	M
Charles Town Post Office	101 West Washington Street	Post Office	N/A	N/A	M	M	H	L	M	N/A	M	M	L	M	L	N/A	M	M
Shepherdstown Post Office	301 South King Street	Post Office	N/A	N/A	L	M	L	L	M	N/A	M	M	L	M	M	N/A	M	M
Floc Center	671 Floc Way	School	N/A	N/A	H	M	H	L	L	N/A	L	M	L	M	L	N/A	H	L
Harpers Ferry Middle School	1710 West Washington Street (Bolivar)	School	N/A	N/A	M	M	H	L	L	N/A	L	M	L	M	L	N/A	M	L
Blue Ridge Elementary School	18866 Charles Town Road (Harpers Ferry)	School	N/A	N/A	M	M	M	L	L	N/A	L	M	L	M	L	N/A	M	L
Blue Ridge Primary School	175 Lowery Lane	School	N/A	N/A	M	M	M	L	L	N/A	L	M	L	M	L	N/A	M	L
Jefferson Academy	449 Rose Hill Drive (Kearneysville)	School	N/A	N/A	L	M	L	L	L	N/A	M	M	L	M	L	N/A	M	L
Shepherdstown Daycare	531 East German Street	School	N/A	N/A	L	M	L	L	L	N/A	M	M	L	M	L	N/A	M	L
C.W. Shipley Elementary School	652 Shipley School Road (Harpers Ferry)	School	N/A	N/A	M	M	L	L	L	N/A	M	M	L	M	L	N/A	M	L
Driswood Elementary School	75 Caspian Way	School	N/A	N/A	M	M	L	L	L	N/A	M	M	L	M	L	N/A	M	L
PVAS at Cool Springs	1469 Lloyd Road	School	N/A	N/A	M	M	L	L	L	N/A	M	M	L	M	L	N/A	M	L
Wildwood Middle School	1209 Shenandoah Junction Road (Shenandoah Junction)	School	N/A	N/A	M	M	L	L	L	N/A	M	M	L	M	L	N/A	M	L
Morgan Academy	8505 Shepherdstown Pike	School	N/A	N/A	L	M	L	L	M	N/A	M	M	L	M	L	N/A	M	L
North Jefferson Elementary School	6996 Charles Town Road (Kearneysville)	School	N/A	N/A	L	M	L	L	M	N/A	M	M	L	M	L	N/A	M	L
South Jefferson Elementary School	4599 Summit Point Road (Charles Town)	School	N/A	N/A	L	M	L	L	M	N/A	M	M	L	M	L	N/A	M	L
Jefferson High School	4141 Flowing Springs Road (Shenandoah Junction)	School	N/A	N/A	M	M	L	L	M	N/A	M	M	L	M	L	N/A	M	L
Jefferson County Board of Education	110 Mordington Avenue	School	N/A	N/A	M	M	L	L	H	N/A	M	M	L	M	L	N/A	M	M
Wright Denny Intermediate School	209 West Congress Street (Charles Town)	School	N/A	N/A	M	M	L	L	H	N/A	M	M	L	M	L	N/A	M	M
School Board Transportation Department	635 McGarry Boulevard, Suite 1	School	N/A	N/A	L	M	L	L	L	N/A	M	M	L	M	L	N/A	M	M
T.A. Lowery Elementary School	103 Shenandoah Junction Road (Shenandoah Junction)	School	N/A	N/A	L	M	L	L	L	N/A	M	M	L	M	L	N/A	M	M
Ranson Elementary School	600 North Preston Street (Ranson)	School	N/A	N/A	M	M	L	L	L	N/A	M	M	L	M	L	N/A	M	M
APUS Academic Center	330 North George Street	School	N/A	N/A	M	M	H	L	M	N/A	M	M	L	M	L	N/A	M	M
Shepherdstown Elementary School	662 South Church Street (Shepherdstown)	School	N/A	N/A	L	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
Shepherdstown Middle School	54 Minden Avenue (Shepherdstown)	School	N/A	N/A	L	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
Charles Town Middle School	193 High Street (Charles Town)	School	N/A	N/A	M	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
Page Jackson Elementary School	370 Page Jackson School Road (Charles Town)	School	N/A	N/A	M	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
Washington High School	300 Washington Patriots Way	School	N/A	N/A	M	M	L	L	M	N/A	M	M	L	M	L	N/A	M	M
Good Shepherd Caregivers	7311 Martinsburg Pike, Suite B	Shelter	N/A	N/A	L	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L

JEFFERSON COUNTY ASSET LIST

Community Asset	*Address*	*Asset Type*	*Public Health Crisis*	*Extreme Temperatures*	*Landslide*	*Severe Wind & Tornado*	*Wild & Urban Fire*	*Flood*	*Hazardous Materials*	*Invasive Species*	*Land Subsidence*	*Severe Thunderstorms*	*Earthquake*	*Violent Disturbance*	*Dam Failure*	*Drought*	*Severe Winter Storm*	*Terrorism*
Jefferson County Council on Aging	301 North Mildred Street, Suite 3	Shelter	N/A	N/A	M	M	L	L	H	N/A	M	M	L	M	L	N/A	M	M
JCCOA Senior Center	103 West 5th Avenue	Shelter	N/A	N/A	M	M	H	L	M	N/A	M	M	L	M	L	N/A	M	M
Jefferson County Community Ministries	238 West Washington Street	Shelter	N/A	N/A	M	M	H	L	M	N/A	M	M	L	M	L	N/A	M	M
Jefferson County Solid Waste Authority	332 Jefferson Orchard Road	Utility	N/A	N/A	L	M	L	L	L	N/A	M	M	L	L	L	N/A	M	L
Charles Town Water Treatment Plant	15527 Charles Town Road	Utility	N/A	N/A	M	M	L	L	M	N/A	M	M	L	L	L	N/A	M	L
Jefferson County Public Service District	340 Edmond Road, Suite A	Utility	N/A	N/A	L	M	L	L	M	N/A	M	M	L	M	L	N/A	M	L
Wastewater Treatment Plant, Charles Town	842 South George Street	Utility	N/A	N/A	M	M	L	H	M	N/A	M	M	L	L	L	N/A	M	M
Wastewater Treatment Plant, Shepherdstown	409 East High Street	Utility	N/A	N/A	L	M	L	L	M	N/A	M	M	L	L	L	N/A	M	M

Appendix G: FEMA Region 3 NFIP Questionnaire

Jefferson County, West Virginia NFIP Community Questionnaire

Floodplain Identification & Mapping

1. Who is your FPA or floodplain manager? Please provide office/agency name, position title, and contact information.	Mr. Roger Goodwin, PE, CFM, MBA, Director of Engineering, Office of Engineering/Code Enforcement & Floodplain Management, & FPA Jefferson County, West Virginia 116 East Washington Street, Suite 100 Charles Town, West Virginia 25414 304-728-3257 engineering@jeffersoncountywv.org
2. Where do you keep your FIRM and FIS report?	Hard copies of the FIRM, FIS, & LOMC's are available in the Jefferson County Office of Engineering/Code Enforcement & Floodplain Management. Digital versions are available for review at www.mapwv.gov/flood/map
3. Has your community adopted the most recent FIRM? When was the adoption? Where is that information stored? Has your community updated the floodplain ordinance language to include the current FIRM and FIS?	Jefferson County, West Virginia has adopted the most recent FEMA FIRM, effective date of December 18, 2009. The Jefferson County Floodplain Management Ordinance language is in compliance with the current FIRM and FIS and is available online at the County's website; hard copies are available for review in the County's Office of Engineering/Code Enforcement & Floodplain Management.
4. Does your jurisdiction support requests for map updates?	Yes. Jefferson County reviews and may provide support for LOMC applications.
5. Is there a specific agency/department responsible for compiling these updates and tracking LOMCs?	Yes, Jefferson County tracks and compiles updates for LOMC's.
6. Do you collect updated technical or scientific data and modeling? How do you share this with FEMA?	Yes. Jefferson County collects and reviews technical and/or scientific modeling data when applicable. Copies are provided to FEMA during the LOMC process.
7. Does your jurisdiction provide assistance with local floodplain determinations? If yes, specify how.	Yes. Jefferson County may assist homeowners and potential applicants in determining if their property is located within or near the SFHA by providing mapping resources and information, both lateral and vertical determination information.
8. Do the people/agencies responsible for using these tools in your community have the access they need? Which tools does your community rely on?	Yes. Jefferson County utilizes multiple tools for NFIP information dissemination and education, including the County website, floodplain management personnel, and other tools such as **www.mapwv.gov** and www.floodsmart.gov.

Floodplain management requires that you understand the mapping and data side when working with the public.

Floodplain Management

1. Does your jurisdiction issue permits for all proposed development in the SFHA? What office/position is responsible?	Yes. The Jefferson County Office of Engineering/Office of Code Enforcement & Floodplain Management and the FPA are responsible for permit issuance within the SFHA.
2. Does your jurisdiction require BFE data for subdivision proposals and other development proposals larger than 50 lots or 5 acres? If so, what department or office is responsible?	Yes. Any new development/subdivision lots within the SFHA is prohibited, unless it is demonstrated that new structures cannot be located out of the floodplain and shall be designed in accordance with the Jefferson County Floodplain Ordinance. The County is responsible.
3. How does your community identify substantially improved structures? When do they intervene?	The Jefferson County FPA requires documentation to be submitted regarding substantially improved structures, including market value, damage assessments, engineer certifications, etc. for compliance with floodplain management requirements.
4. Does your community have a coordinated process to determine substantial damage and to permit repair and improvement? Does the jurisdiction conduct substantial damage assessments in the SFHA? Does your community have a plan for who will conduct substantial damage assessments and a procedure for assessment?	Yes. The Jefferson County Floodplain Management Ordinance specifies that the FPA shall administer the requirements related to work on existing structures that are located within the SFHA and have been substantially damaged, and to notify owners of substantially damaged structures to obtain permits and prohibit non-compliant repair of damaged buildings. The FPA and/or authorized/designated County Representative conducts damage assessments.
5. Does your jurisdiction require Elevation Certificates for new or substantially improved structures? If yes, how is it documented and which office/agency/department is responsible?	Yes. Applicants for construction within the SFHA must submit an Elevation Certificate prepared by a licensed engineer or surveyor. Jefferson County reviews the applications and certificates.
6. How does the jurisdiction enforce the floodplain ordinance sections? How does the jurisdiction address SI/SD violations?	The Jefferson County FPA makes periodic inspections of properties, structures, and utilities for compliance with the ordinance and can issue violations, stop work orders, and penalties. The Jefferson County FPA and the code enforcement officer is responsible for enforcing violations.
7. Has your jurisdiction had a Community Assistance Visit? If so, were any corrective actions required?	Yes, Jefferson County had a Community Assistance Visit in 2006.
8. Does your jurisdiction have or is considering higher ordinance standards than the NFIP? Please describe the higher standards and where they are documented.	All new or substantially improved structures shall have the lowest floor elevated to or above the flood protection elevation. The Jefferson County Flood Protection Elevation is the base flood elevation (BFE) plus three (3) feet of freeboard. No additional regulations are planned at this time.
9. Are any local officials/departments in your community interested in additional training? What topics relate most to your community?	Yes, Jefferson County personnel are always interested in additional training in reviewing and administering the requirements of the NFIP.

Floodplain management reduces flood risk and protects floodplain health.

Flood Insurance

1. How does the jurisdiction educate community members about the availability and value of flood insurance?	Jefferson County personnel and/or the FPA educates the community and property owners regarding the value of flood insurance through press releases, public service announcements, and/or direct contact with property owners within the SFHA.
2. Does the jurisdiction inform community property owners about changes to the FIRM that would impact their insurance rates?	Yes, Jefferson County and/or the FPA notifies property owners within the SFHA regarding changes to the FIRM through press releases, public service announcements, social media posts, and where applicable, direct correspondence.
3. How does the jurisdiction provide general assistance to community members regarding insurance issues?	The FPA and Jefferson County personnel are available to advise, assist and answer any questions of community members regarding the NFIP program and/or floodplain regulations.
4. Does the jurisdiction keep track of the number of residential and non-residential structures in the SFHA? How many structures are in the SFHA in your community?	Yes. A database of the number of residential and non-residential structures is maintained by the County. According to the FEMA www.floodsmart.gov website, there are 197 NFIP policies within the County (unincorporated and town/municipalities combined).
5. Does the jurisdiction have any levees or levee systems in its jurisdiction?	No. Jefferson County, WV does not have any levee systems within its jurisdiction according to the USACE national levee database.
6. Is the levee or levee system certified and accredited?	N/A
7. Is the levee or levee system a Provisionally Accredited Levee (PAL)?	N/A
8. Is the levee or levee system part of the USACE Rehabilitation and Inspection Program?	N/A
9. Does your community have any Major Dams or High Hazard Dams, and if so, have you applied for FEMA's High Hazard Potential Dam grant?	Yes. Jefferson County has one (1) high hazard dam and one (1) significant hazard dam within its jurisdiction according to the USACE National Inventory of Dams. The County has not applied for FEMA's High Hazard Potential Dam grant.

Flood risk communication to the public is vital for a community to be truly resilient.

NEXT STEPS

- Potential short- and long-term action items to consider:
  - Add additional floodplain management and permitting information to the County website, i.e. permit application, links to state (www.mapwv.gov) and federal floodplain mapping (https://msc.fema.gov/portal/home) and insurance programs (www.floodsmart.gov).
  - Consider updating the County's floodplain management ordinance in advance of the FEMA FIRM/FIS map update to be compliant with the NFIP regulations (44 CFR 59 & 60). Please note that the ordinance update will be a requirement and must occur prior to the new effective map date to avoid suspension from the NFIP.
  - Develop and publish an updated Substantial Damage/Substantial Improvement (SI/SD) Administrative Procedure and post on the County website.

Appendix H: 2018 Mitigation Actions Update

Project No.	Mitigation Action	Hazards Addressed	Department/ Agency	Completed	Canceled	Deferred	Ongoing	Comment
JC-76	Strategy 10.3.1: Encourage agricultural producers and dairies to plan for power outages and install backup power supplies. Conduct an assessment of the applicability of renewable energy sources as a potential backup power supply.	All hazards	Agricultural producers, WVU Extension Service, Farm Service				X	J.C. WVU EIT Service: 304-728-7413 - Perhaps track the %and # of farms with back-up power. Also, back-up power to what %? WWTp % Refridgerator %
JC-58	Strategy 9.3.1: Ensure that all shelters have adequate emergency power resources. Churches and other facilities that maybe used as shelters should consider installing backup generators.	All hazards	ARC				X	Jess Hott
JC-78	Strategy 13.1.5: Ensure that the Red Cross citizen's disaster course is held on a frequent basis.	All hazards	ARC				X	Jess Hott - Quarterly %
JC-68	Strategy 2.2.2: Consider passing ordinances to prioritize or control water use, particularly for emergency situations such as firefighting.	Wild and Urban Fires	County Commission				X	As a new commissioner, I am unaware of anything being discussed of this nature - Any infrastructure needs %
JC-73	Strategy 4.6.1: Work with FEMA and WVDHSEM on the Map Modernization Program to improve FIRMS.	Flood	FEMA, WVDHSEM				X	
JC-07	Pre-identify caregivers or volunteers to partner them with vulnerable populations to ensure vulnerable populations are taken care of before, during, and after emergencies.	All hazards	Good Shepherd IVC				X	
JC-16	Identify strengths and resources within the organization that can be utilized to implement mutual aid during emergencies. Create mutual aid agreements with identified partners.	All hazards	Good Shepherd IVC				X	
JC-67	Upgrade the E911 CAD map to allow dispatchers to update real-time information in the map.	All hazards	JC 911				X	Working with CAD Vendor to Upgrade Map
JC-05	Strategy 13.13.1: Educate and inform local government and elected officials of the need to consider hazard mitigation in policy and budgetary planning and decision-making processes.	All hazards	JC Commission				X	I do see the importance for local government officials to be aware of the hazard mitigation policy with respect to budgeting.
JC-80	Strategy 4.3.2: Initiate storm water management projects that tie into the Chesapeake Bay Watershed initiatives.	Flood	JC Engineering				X	Comment: Good for source water protection
JC-91	Strategy 7.3.1: Develop a system to monitor groundwater levels in subsidence-prone areas, as groundwater levels directly influence karst topography, which may lead to sinkholes and subsidence issues.	Land Subsidence	JC Engineering				X	Need to track well water levels also
JC-06	Train instructors to deliver Stop the Bleed programs to partner agencies and the general public.	All hazards	JC ESA				X	
JC-11	Train first responders on the correct use of naloxone for overdoses and purchase for use.	Public Health Crisis	JC ESA				X	Largely Complete - JCHD provides training also
JC-81	Develop or participate in programs that will replace fire and EMS apparatus as needed.	All hazards	JC ESA				X	
JC-45	Train personnel and create an in-county hazmat team to reduce the use of out-of-county resources and increase in-county capabilities	Hazmat	JC ESA, VFDs				X	
JC-66	Install dry wells in remote locations around the county where water infrastructure does not reach.	Wild and Urban Fires	JC ESA, VFDs				X	
JC-34	Strategy 4.4.2: Provide training to municipalities on the CRS program and encourage them to participate.	Flood	JC Floodplain Manager				X	
JC-12	Train peer recovery coaches to assist with addiction problems around the county	Public Health Crisis	JC HD				X	In hiring process
JC-23	Recruit and train volunteers to support hospitals and medical offices during emergencies	Public Health Crisis	JC HD				X	
JC-24	Develop drug education campaigns that focus on risks of drugs and resources available.	Public Health Crisis	JC HD				X	
JC-88	Strategy 7.1.1: Conduct a detailed vulnerability analysis on the county's infrastructure to see what losses could be incurred during a land subsidence event (in pertinent areas).	Land Subsidence	JC IT, JC Engineering, JC Maintenance				X	
JC-27	Strategy 5.2.1: Increase education and awareness about shelter-in-place opportunities. Jefferson County LEPC to develop and deliver information to all county residents through community groups, publications on website, information on how to shelter in place and when it is appropriate to do so.	Hazmat	JC LEPC				X	
JC-14	Review and update plans regarding stream and river setbacks.	Flood	JC Planning				X	J. Brockman (Good Source for water protection efforts) - SWCC - Alyssa Murray - Eastern
JC-32	Require riparian buffers of at least 35-50 feet with tree planting.	Hazmat	JC Planning				X	J. Brockman (Good Source for water protection efforts) - Panhandle Conservation Mananger (301) 608-1188 *212 Potomac.org
JC-42	Strategy 13.5.1: Review existing regulations to ensure adequacy in reducing the amount of future development in identified hazard areas.	All hazards	JC Planning				X	
JC-43	Strategy 13.5.2: Review all comprehensive plans to ensure that designated growth areas are not in hazard areas.	All hazards	JC Planning				X	
JC-44	Strategy 13.5.3: Review all capital improvement plans to ensure that infrastructure improvements are not directed towards hazardous areas.	All hazards	JC Planning				X	
JC-10	Strategy 9.2.1: Reduce the risk of mobile home damage by suggesting the use of tie-downs with ground anchors appropriate for the soil type.	Severe Wind and Tornado	JC Planning, JC Engineering				X	
JC-70	Strategy 8.3.1: Encourage the use of laminated glass in window panes during all new construction.	All hazards	JC Planning, JC Engineering				X	% residental and commercial
JC-01	Implement appropriate natural resource management practices by removing or cutting back trees located close to power lines and placing or increasing vegetation in areas that could benefit from water absorption and shade from tree canopies.	Extreme Temperatures, Severe Wind and Tornado, Severe Winter Storms, Flood	JC Public Works				X	
JC-54	Form a partnership of agencies to implement an active shooter training program to be delivered to houses of worship, county agencies, volunteer organizations, etc.	Violent Disturbance	JC SO, WV SP, Local Law Enforcement Agencies				X	Active Assaliant Policy/Procedure; Rescue Task Force Planning and Integrated Response play in works
JC-82	Strategy 13.8.1: Develop a plan to implement the Needs Assessment recommendations developed by the Public Safety System Consultant.	All hazards	JCECC				X	
JC-48	Strategy 10.3.2: Pre-wire critical facilities for generators, and provide backup generators for fire departments that do not yet have them.	All hazards	JCESA				X	Ensure they're serviced
JC-18	Strategy 11.2.2: Continue education and training efforts of first responders and emergency personnel.	All hazards	JCESA, Fire Association				X	
JC-35	Strategy 12.1.3: Encourage residents and businesses to maintain their property in or near forested areas (including short grass; thinned trees and removal of low hanging branches, cleaning of dead or dry leaves, needles, twigs, etc.), and to create a buffer zone (defensible space) between structures and adjacent forests.	Wild and Urban Fires	JCESA, Local Fire Departments, JC Fire Association				X	
JC-39	Strategy 12.1.1: Create displays for children's programs that teach fire safety. Examples of information to be used would be similar to that on the FEMA for kids CD and/or the Sparky Fire Safety Program.	Wild and Urban Fires	JCESA, Local Fire Departments, JC Fire Association				X	
JC-40	Strategy 12.1.2: Encourage residents in rural areas to inspect and clean their chimneys at least once a year.	Wild and Urban Fires	JCESA, Local Fire Departments, JC Fire Association				X	

JC-03	Strategy 11.1.2: Increase the knowledge of the general public concerning preparedness through the preparation of informational brochures, town meetings, training seminars, etc.	All hazards	JCHSEM				X	
JC-13	Strategy 13.1.4: Create a public speaking series to include topics such as types of natural disaster and risk, how to develop a family disaster plan, how to develop a family disaster supply kit, how to develop a business continuity plan, simple type of mitigation projects for homeowners, etc. These speaking engagements will be offered to civic groups such as Rotary and Kiwanis Clubs, the Chamber of Commerce, Church and interfaith groups, Boy and Girl Scouts, etc.	All hazards	JCHSEM				X	
JC-17	Strategy 5.3.1: Teach Community Emergency Response Team (CERT) classes in Jefferson County.	All hazards	JCHSEM			X	X	
JC-20	Strategy 8.1.2: Encourage the use of NOAA Weather Radios that continuously broadcast NWS forecasts and provide direct warnings to the public.	All hazards	JCHSEM				X	
JC-21	Strategy 13.1.1: Create displays for use at public events (health fair, public awareness day, and county fair). This display would include pictures and information, such as that contained in FEMA's Retrofitting for Homeowners Guide, Elevating Your Flood Prone Home, Elevating Residential Structures, and information on the NFIP.	Flood	JCHSEM				X	
JC-26	Strategy 13.4.2: Provide information about local, regional, state, and federal training opportunities to fire departments, EMS, ambulance services, and other emergency responders	All hazards	JCHSEM				X	
JC-33	Strategy 13.4.1: Conduct annual tabletop disaster exercises with local law enforcement, emergency managers, city and county officials, and other disaster response agencies.	All hazards	JCHSEM				X	Comment: Interption of water supply train derailment
JC-36	Strategy 13.1.8: Continue to work with non-governmental organizations (youth services, professional, religious) to promote mitigation education and awareness.	All hazards	JCHSEM				X	
JC-38	Strategy 13.12.1: Contact representatives of rail lines to collect information about emergency planning and risks associated with rail services in the county.	Hazmat	JCHSEM				X	
JC-46	Strategy 4.4.3: Obtain updated information on the number of NFIP policyholders in Jefferson County and its municipalities.	Flood	JCHSEM				X	
JC-47	Strategy 4.5.1: Collect updated information of the number and location of all repetitive loss properties throughout the county and the municipalities.	Flood	JCHSEM				X	
JC-49	Strategy 4.1.2: Continue to hold local courses on National Flood Insurance Program (NFIP) for realtors, bankers, and insurers.	Flood	JCHSEM				X	
JC-51	Strategy 10.2.1: Develop a part of the website that describes the proper procedures to take to safeguard against and prepare for winter storms.	Severe Winter Storm	JCHSEM				X	
JC-56	Strategy 13.6.1: Review the existing Jefferson County Emergency Operations Plan (EOP) and update where necessary based on the recommendations of the Jefferson County Hazard Mitigation Plan.	All hazards	JCHSEM				X	
JC-59	Strategy 4.1.1: Distribute letters to all property owners in the county regarding potential flood hazards as required for participation in the Community Rating System (CRS).	Flood	JCHSEM				X	
JC-63	Strategy 10.2.2: Work with WVDHSEM and FEMA to develop a long term recovery plan.	All hazards	JCHSEM				X	
JC-64	Strategy 8.1.3: Continue to conduct National Weather Service Storm Spotter classes.	All weather hazards	JCHSEM				X	
JC-71	Strategy 13.1.3: Send news releases to local newspapers, radio, TV stations, and social media outlets about pre-disaster information. Our media strategies are designed to reach all areas of Jefferson County	All hazards	JCHSEM				X	
JC-72	Strategy 13.1.6: Update the county website to provide hazard related information that is easily accessible. The JCHSEM website has information about disaster preparedness and related activities. The plan is to expand and update the website as needed and as appropriate in a timely manner to benefit all County residents	All hazards	JCHSEM				X	
JC-74	Strategy 13.1.9: Establish all-hazard resource centers to be located in the main office of the county and cities. The centers will act as a repository for information on local hazard identification, preparedness, and mitigation strategies for use by citizens, realtors, and lenders.	All hazards	JCHSEM				X	
JC-75	Strategy 3.1.1: Develop a section of the website explaining the potential for earthquakes, as well as the potential damages from those earthquakes. This information should include measures to take to safe-proof homes and other structures from the potential effects of earthquakes.	Earthquake	JCHSEM				X	
JC-83	Strategy 5.1.1: Apply for Hazardous Materials Emergency Preparedness (HMEP) grant from WVDHSEM to finance the development of a Commodity Flow Study to determine what hazardous materials are used, stored, and shipped through the county.	Hazmat	JCHSEM				X	
JC-08	Form a partnership amongst county agencies to conduct periodic exercises for all hazards. Primary focus on school bus accident and MCI.	All hazards	JCHSEM				X	Comment: Train Derailments -
JC-25	Educate the public on the benefit of purchasing flood insurance and increase flood insurance users in Jefferson County.	Flood	JCHSEM				X	
JC-41	Conduct public awareness and education campaigns to target people living near dams and the implications of constructing dams.	Dam Failure	JCHSEM				X	
JC-55	Create and implement programs that address actions to be taken before, during, and after natural and human-caused emergencies.	All hazards	JCHSEM				X	
JC-29	Strategy 9.3.2: Establish a protocol for the sharing of annual shelter survey information between the local Red Cross Chapter and JCHSEM.	All hazards	JCHSEM, ARC				X	
JC-50	Strategy 4.4.1: Support Jefferson County's efforts to continue the CRS program.	Flood	JCHSEM, JC Commission				X	I need to learn more about this program but if I can help, I would like to
JC-92	Strategy 3.2.1: Install sensory systems that immediately shut off the flow of gas to critical infrastructure throughout the county as soon as earth movements are felt.	Earthquake	Jefferson County or Municipal Engineering Departments				X	
JC-57	Strategy 6.4.1: Consider planting various types of vegetation in landslide prone areas to increase soil stability through root length and strength and by absorbing precipitation.	Landslide	Local government agencies				X	
JC-60	Strategy 7.2.1: Consider implementing open space designations in land subsidence prone areas, to keep those areas undeveloped.	Land Subsidence	Local government agencies				X	
JC-62	Strategy 6.3.1: Consider implementing open space designations in landslide prone areas, to keep those areas undeveloped.	Landslide	Local government agencies				X	
JC-86	Strategy 11.2.3: Consider providing heightened security at public gatherings, special events, hazardous materials facilities and critical community facilities and industries	Violent Disturbance	Local Law Enforcement				X	As resources allow
JC-19	Strategy 8.1.1: Coordinate with the National Weather Service (NWS) to warn residents of impending severe thunderstorm and hailstorm conditions.	Severe Thunderstorm	NWS				X	
JC-22	Strategy 9.1.1: Coordinate with the National Weather Service (NWS) to warn residents of impending severe winds and possible tornado conditions.	Severe Wind and Tornado	NWS				X	
JC-28	Strategy 8.2.1: Coordinate with the power company to periodically trim trees near power lines to prevent limb breakage and power failures.	All weather hazards	Power Company, Contractors				X	
JC09	Remove brush and vegetation around structures to reduce hazard fuel.	Wild and Urban Fires	Property owners				X	Need to inform our customers
JC-65	Implement the home fire campaign, Sound the Alarm, Save a Live, in homes throughout Jefferson County	Urban Fires	Red Cross				X	Jess Hott
JC-53	Research and implement successful programs for preventing sexual assault on college campuses.	Violent Disturbance	Shepherd University				X	

JC-89	Strategy 6.2.1: Develop and distribute educational materials concerning erosion and sediment control and slope stabilization to assets located in landslide prone areas, including the proper installation of erosion control blankets, turf reinforcement mats, silt fences, filter bags, channel dikes and dams and turbidity barriers.	Landslide, Flooding	USGS				X	
JC-15	Strategy 2.1.1: Provide for an emergency backup power supply at all water treatment facilities in Jefferson County.	All hazards	WVDA, NRCS, Farm Bureau				X	Comment: Generators/backup power is element of source water protection plans (SWPPs)
JC-30	Strategy 10.1.1: Coordinate with local private contractors to develop mutual aid agreements for emergency snow removal, also develop a Debris Management Plan that can be implemented following a disaster occurrence.	All hazards	WVDOH, Contractors				X	
JC-61	Strategy 5.2.3: Install Uninterruptible Power Supply (UPS) systems on traffic signals.	All hazards	WVDOT				X	
JC-37	Strategy 13.2.1: Develop adequate emergency shelter and evacuation plans for animals (domestic pets, livestock, and wildlife). Establish a committee representative of all areas of the county that will include veterinarians, pet store owners, the Humane Society, animal shelters, the WVU Extension Service and other interested parties to work on animal -specific evacuation and sheltering needs.	All hazards	WVU Extension Service				X	
JC-85	Map hillside slopes utilizing GIS technology to ensure proper techniques are employed during development	Landslide	JC GIS		X			No longer require. Still available if requested.
JC-84	Strategy 11.2.4: Make arrangements or otherwise establish mass morgue facilities to be used following potential mass casualty events.	All hazards	JC HD, Medical Examiner			X		No Action Yet - Need to meet with ME Partners
JC-52	Strategy 13.1.2: Create materials that are targeted towards tourist populations. Work with the Jefferson County Convention and Visitors Bureau, the US Park Service and others to alert tourists to potential natural hazard areas and what to do if a natural or man-made hazard occurs during their visit to Jefferson County.	All hazards	JCHSEM			X		
JC-69	Strategy 4.5.3: Identify owners of repetitive loss properties who are interested in participating in future property acquisition and relocation projects.	Flood	JCHSEM			X		
JC-77	Strategy 13.9.1: Continue to support initiatives established under Jefferson County Project Impact, and continue as a part of the RNN and participate in its activities.	All hazards	JCHSEM			X		
JC-79	Strategy 10.3.3: Conduct prime power surveys for all critical infrastructure.	All hazards	JCHSEM			X		
JC-87	Strategy 13.1.7: Continue to work with the Jefferson County school system to promote hazard mitigation education and awareness and discuss ways to better integrate mitigation into the curriculum.	All hazards	JCHSEM			X		
JC-90	Strategy 13.3.1: Meet with groups of potential volunteers to attempt to increase the number of trained responders. Groups will include all county fire departments, doctors, nurses and EMS personnel who may become first responders in a bio-terrorism event.	Violent Disturbance, Terrorism	JCHSEM			X		
JC-93	Strategy 9.1.2: Conduct upgrades on the Sheriff's Mobile Command Center vehicle.	All hazards	JCHSEM		X			
JC-02	Purchase and install generators at critical facilities within Jefferson County	All hazards	JCHSEM			X		
JC-04	Implement the Pillowcase Project in schools, libraries, etc. to teach children about disaster preparedness.	All hazards	Red Cross			X		Jess Hott
JC-31	Ensure the public is aware of shelter locations in times of need through outreach campaigns that focus on shelter education	All hazards	Red Cross			X		Jess Hott

			Frank Welch, Director of Public Works				
Proj. No.	Hazards Addressed	Mitigation Action	Status				Status Notes
			Completed	Canceled	Deferred	Ongoing	
ST-01	Flood	Continue to educate homeowners on the benefit of and encourage them to participate in acquisition/demolition, elevation, relocation, and mitigation reconstruction of structures in the floodplain.				X	
ST-02	All hazards	Strategy E1.1.3: Design and construct a new water plant with generator back-up power supply.	X				Water plant improved with generator
ST-03	Flood	Consider leaving open spaces for recreational activities or planting vegetation in flood-prone areas around the town.				X	

			Town of Harpers Ferry - Stephen Paradis, Administrator of Public Works				
Proj. No.	Hazards Addressed	Mitigation Action	Status				Status Notes
			Completed	Canceled	Deferred	Ongoing	
HF-01	All hazards	Strategy 13.10.1: Establish a formal process for the Town of Harpers Ferry and the Park Service to coordinate disaster related efforts, which will include defining boundaries and establishing responsibilities.			X		Contact Greg Vaughn/Pat Morse HF Town Hall
HF-02	Flood	Continue to educate homeowners on the benefit of and encourage them to participate in acquisition/demolition, elevation, relocation, and mitigaion reconstruction of structures in the floodplain.			X		Contact Greg Vaughn/Pat Morse HF Town Hall
HF-03	All hazards	Upgrade the Harpers Ferry and Bolivar areas water system infrastructure to provide clean drinking water and reliable service				X	
HF-04	Flood	Strategy C1.1.1: Reroute an eight inch (8") water main near Elk Run, as the line is currently exposed in two (2) locations where it crosses Elk Run. The line is in danger of being broken by large debris in Elk Run in a flooding situation.	X				

Proj. No.	Hazards Addressed	Mitigation Action	Status				Status Notes
			Completed	Canceled	Deferred	Ongoing	
CT-01	Flood	Continue to educate homeowners on the benefit of and encourage them to participate in acquisition/demolition, elevation, relocation, and mitigation reconstruction of structures in the floodplain.				X	
CT-02	All hazards	Strategy B1.1.1: Target areas for recreation that is interconnected with trails and parkland, beyond the required floodplain and wetland areas, and layout a strategy for green space protection.				X	
CT-03	All hazards	Strategy B1.1.4: Place utilities underground as part of a street-scaping project.				X	
CT-04	Flood	Strategy B1.1.2: Encourage the use of natural drainage swales over engineered storm water management channels where practical.				X	
CT-05	Land Subsidence	Strategy B2.1.2: Establish a sinkhole management plan.				X	
CT-06	Flood	Strategy B1.1.3: Work jointly with the City of Ranson on a storm water management project for Evitts Run Park.				X	
CT-07	Earthquake	Strategy B2.1.1: Require special geotechnical exploration when locating large facilities such as schools, hospitals, community buildings, and other institutions. Ground penetrating radar, seismic and electrical resistance surveys, and exploratory drilling are a few of the techniques currently used.				X	

Proj. No.	Hazards Addressed	Mitigation Action	Status				Status Notes
			Completed	Canceled	Deferred	Ongoing	
RS-01	Flood	Continue to educate homeowners on the benefit of and encourage them to participate in acquisition/demolition, elevation, relocation, and mitigation reconstruction of structures in the floodplain.				X	Education Through Permit Process
RS-02	Drought	Strategy D2.1.2: Review the need for additional water towers.				X	
RS-03	Flood	Strategy D1.1.2: Work jointly with the City of Charles Town on a storm water management project for Evitts Run Park.	X				Ranson has completed their share

Proj. No.	Hazards Addressed	Mitigation Action	Status				Status Notes
			Completed	Canceled	Deferred	Ongoing	
BV-01	Flood	Continue to educate homeowners on the benefit of and encourage them to participate in acquisition/demolition, elevation, relocation, and mitigation reconstruction of structures in the floodplain.				X	
BV-02	All hazards	Support Jefferson County's initiative in encouraging the use of laminated glass in windowpanes during all new construction.		X			
BV-03	Wild and Urban Fires	Support Jefferson County's initiative in encouraging residents and businesses to maintain their property in or near forested areas (including short grass; thinned trees and removal of low hanging branches, cleaning of dead or dry leaves, needles, twigs, etc.), and to create a buffer zone (defensible space) between structures and adjacent forests.				X	

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Michael Baker
INTERNATIONAL

Client Agreement

THIS AGREEMENT entered into this 11th day of April 2023, by and between Michael Baker International, Inc. (hereinafter "**MICHAEL BAKER**") with offices at 400 Washington Street East, Suite 301 Charleston, WV 25301, and Jefferson County Commission (hereinafter, "**CLIENT**"), with offices at 124 East Washington Street, Charles Town, WV 25414.

WHEREAS, the **CLIENT** is in the business of County government planning and zoning, and desires **MICHAEL BAKER** to perform certain planning and technical services.

WHEREAS, **MICHAEL BAKER** is in the business of providing hazard mitigation planning and technical services and desires to perform such services for **CLIENT**.

NOW THEREFORE, in consideration of the mutual promises and covenants contained herein, and intending to be legally bound hereby, the parties agree as follows:

1. **SCOPE OF WORK.** **MICHAEL BAKER** shall perform such engineering and technical services as are described in the attached Exhibit "**A**", including any additions or modifications mutually agreed upon and incorporated therein (hereinafter, "Work").

2. **STANDARD OF CARE.** The standard of care applicable to **MICHAEL BAKER's** services is the degree of skill and diligence normally employed by engineers or providers of technical services performing the same or similar services.

3. **COMPENSATION AND PAYMENT.** **CLIENT** shall compensate **MICHAEL BAKER** for the Work in such manner as described in the attached Exhibit B, including any additions or modifications mutually agreed upon and incorporated therein (hereinafter, the "Payment Terms"). Upon invoice, and final approval by the County Commission, West Virginia Emergency Management Division (WV EMD), and FEMA, payment will be made in one lump sum.

4. **ESTIMATES.** Any estimates provided for cost of construction, financing, and acquisition of land and right-of-ways shall be made in accordance with good engineering practice and procedure. It is understood, however, that **MICHAEL BAKER** has no control over construction costs, competitive bidding and market conditions, nor over costs of financing, acquisition of land or right-of-ways, and **MICHAEL BAKER** does not guarantee the accuracy of such cost estimates as compared to actual cost or contractors' bids.

5. **CONSTRUCTION MEANS AND METHODS.** **MICHAEL BAKER** shall not be responsible for construction means, methods, techniques, sequences or procedures of construction contractors, or the safety precautions and programs incident thereto, and shall not be responsible for such contractors' failure to perform work in accordance with the contract documents.

6. **COMPLIANCE WITH LAWS.** **MICHAEL BAKER** shall comply with all applicable provisions of the unemployment compensation, sickness and disability, Social Security laws, the Fair Standards Act and all other Federal, State, and local laws or regulations relating to employment.

7. **ASSIGNMENT BY CLIENT.** All the terms, provisions, covenants and conditions of this Agreement (including any modifications thereto) shall be binding upon, inure to the benefit of, and be enforceable by **CLIENT**, its successors and assigns; provided however, that no portion of this Agreement (including any Task Order) and the rights and obligations thereunder shall be assignable or delegable by **CLIENT**, by operation of law or otherwise, without the express prior written consent of **MICHAEL BAKER** which consent shall not be unreasonably withheld.

8. **ASSIGNMENT BY MICHAEL BAKER.** All the terms, provisions, covenants and conditions of this Agreement (including any modifications thereto) shall be binding upon, inure to the benefit of, and be enforceable by **MICHAEL BAKER**, its successors and assigns; provided however, that no portion of this Agreement (including any Task Order) and the rights and obligations thereunder shall be assignable or delegable by **MICHAEL BAKER**, by operation of law or otherwise, without the express prior written consent of **CLIENT** which consent shall not be unreasonably withheld.

9. **INSPECTION OF THE WORK.** **MICHAEL BAKER** shall grant the **CLIENT** access at all reasonable times to **MICHAEL BAKER's** facilities where the work under this Agreement is being performed.

10. **CHANGES.** The **CLIENT** may, at any time prior to the completion of the Work, direct, in writing, any changes to the Work, including but not limited to the revision of the Work's scope, time period, or schedule of performance. **MICHAEL BAKER** shall perform such changes to the Work as directed by the **CLIENT** in writing and shall be paid for such Work at rates established by the Agreement, at actual costs plus 168% to cover overhead and profit, or as may be otherwise agreed between the **CLIENT** and **MICHAEL BAKER**.

11. **SUSPENSION OR TERMINATION.** In the event that the Work is terminated or suspended by the **CLIENT** prior to its completion, **MICHAEL BAKER** shall be paid an equitable amount proportional to the services rendered to the date of termination or suspension, plus reasonable profit and termination costs.

12. **DEFAULT.** Should either party breach any provisions of this Agreement the non-breaching party shall have the rights and remedies provided by law or under these terms and conditions.

13. **INDEMNIFICATION.** Except as stated below, **MICHAEL BAKER** shall indemnify and save harmless the **CLIENT** from these claims, losses, lawsuits or expenses caused directly by **MICHAEL BAKER's** negligent acts, errors or omissions with performance of **MICHAEL BAKER's** services hereunder. To the fullest extent permitted by law, with respect to claims, damages, losses and expenses which are related to hazardous waste or asbestos removal, disposal or cleanup or environmental liability, the **CLIENT** shall indemnify, save harmless and defend **MICHAEL BAKER** from and against all such claims, damages, losses or expenses, including attorney's fees, arising out of or resulting from the performance of **MICHAEL BAKER's** services, or claims against **MICHAEL BAKER** arising from work of others.

14. **LIMITATION OF LIABILITY.** To the fullest extent permitted by law, the **CLIENT** agrees to limit **MICHAEL BAKER's** liability to the **CLIENT** and to all other contractors or subcontractors on the project for any and all injuries, claims, losses, expenses or damages whatsoever arising out of or in any way related to the project or this Agreement from any cause or causes including but not limited to **MICHAEL BAKER's** negligent acts, errors, omissions, strict liability, breach of contract, or breach of warranty, such that the total aggregate of liability of **MICHAEL BAKER** to all those named shall not exceed $50,000 or the total fee for **MICHAEL BAKER's** services rendered in the project, whichever is greater.

15. **WAIVER OF CONSEQUENTIAL DAMAGES.** In no event shall either **MICHAEL BAKER** or the **CLIENT** have any claim or right against the other, whether in contract, warranty, tort (including negligence), strict liability or otherwise, for any special, indirect, incidental, or consequential damages or any kind or nature whatsoever, such as but not limited to loss of revenue, loss of profits on revenue, loss of customers or contracts, loss of use of equipment or loss of data, work interruption, increased cost of work or cost of any financing, howsoever caused, even if same were reasonably foreseeable.

16. **INSURANCE.** Unless otherwise required in this Agreement, the **CLIENT** and **MICHAEL BAKER** shall, during the performance of the services as provided herein, maintain insurance of the types and amounts specified, and with insurers satisfactory to the other party as follows:

Worker's Compensation	**Statutorily required amounts**
Employer's Liability	$1,000,000 Bodily Injury by Accident (Each occurrence) $1,000,000 Bodily Injury by Disease (Policy Limit) $1,000,000 Bodily Injury by Disease (Each Person)
Comprehensive General Liability	$1,000,000 Each Occurrence for bodily injury and property damage $1,000,000 Products/ Completed Operations Aggregate $1,000,000 General Aggregate over all interests
Comprehensive Automotive Liability	$1,000,000 Bodily Injury $1,000,000 Property Damage (including coverage for owned, non-owned and hired vehicles)
Professional Liability	$1,000,000 (Each claim)

17. **INDEPENDENT CONTRACTOR.** **MICHAEL BAKER** acknowledges that it is furnishing the services contemplated by this Agreement hereto as an independent contractor, and not as an employee or agent of **CLIENT** or any of its affiliates.

18. **PUBLIC ANNOUNCEMENTS.** No publicity releases (including news releases and advertising) relating to this Agreement or the services performed hereunder, shall be issued by either party without the prior written approval of the other party.

19. **PARTIAL INVALIDITY.** If any term, covenant, condition or provision of this Agreement is found by a court of competent jurisdiction to be invalid, void, or unenforceable, the remainder of the provisions hereof shall remain in full force and effect, and shall in no way be affected, impaired or invalidated thereby.

20. **HEADINGS.** Headings in this Agreement are for convenience only, and are not intended to be used in interpreting or construing the terms, covenants, and conditions of this Agreement.

21. **GOVERNING LAWS.** The validity or construction of this Agreement, as well as the rights and duties of the parties hereunder, shall be governed by the laws of the State of West Virginia without regard to its choice of law provisions.

22. **SUPPLEMENTS TO AGREEMENT.** The following Exhibits are an integral part of this Agreement.

    Exhibit "A" Scope of Work
    Exhibit "B" Compensation and Payment

23. **ENTIRE AGREEMENT.** This Agreement constitutes the whole agreement between the parties with respect to the subject matter contained herein, and there are no terms other than those contained herein. No modification or amendment of this Agreement shall be valid unless in writing and signed by the parties hereto.

24. **FORCE MAJEURE.** In no event shall either **MICHAEL BAKER** or the **CLIENT** have any claim or right against the other for any failure of performance where such failure of performance is caused by or is the result of causes beyond the reasonable control of the other party due to any occurrence commonly known as a "force majeure," including, but not limited to: acts of God; fire, flood, or other natural catastrophe; acts of any governmental body; labor dispute or shortage; national emergency; insurrection; riot; or war.

25. **REUSE OF WORK PRODUCT.** Any reuse of **MICHAEL BAKER**'s work product without written verification or adaptation by **MICHAEL BAKER** will be at the **CLIENT**'s own risk and without liability or legal exposure to **MICHAEL BAKER.** The **CLIENT** shall indemnify and hold harmless **MICHAEL BAKER** from all claims, damages, losses and expenses, including reasonable attorney's fees, arising out of or resulting therefrom. Any such verification or adaptation will entitle **MICHAEL BAKER** to further compensation at rates to be agreed upon by the **CLIENT** and **MICHAEL BAKER.**

26. **OBLIGATION OF GOOD FAITH, FAIR DEALINGS AND MITIGATION OF DAMAGES.** This Agreement imposes an obligation of good faith, fair dealings and the mitigation of damages among the parties in all matters relating to this Agreement. Good faith, for this purpose, includes honesty in fact and the observance of reasonable commercial standards of fair dealings and in the mitigation of damages even in situations where a decision is left to the sole discretion of a single party.

27. **INVENTIONS AND PATENTS.** Inventions conceived solely by employees of **CLIENT** shall belong exclusively to **CLIENT**. Inventions conceived solely by employees of **MICHAEL BAKER** shall belong exclusively to **MICHAEL BAKER**. Inventions conceived jointly by the parties hereto in the course of work called for by this Agreement shall be subject to further agreement of the parties so as to properly recognize each party's respective rights in such joint inventions.

IN WITNESS WHEREOF, and intending to be legally bound hereby, the parties have caused this Agreement to be executed and delivered as of the day and year first above written.

WITNESS:

_____

Michael Baker International, Inc.

_____

Name, Title: Rusty Hall, Office Executive

Date: April 10, 2023

WITNESS:

Jefferson County Commission

DocuSigned by:
Steve Stolipher
8BE8C7C27B4B483...

Name, Title: Steve Stolipher, Commission President

Date: May , 2023

5/1/2023

EXHIBIT A
Scope of Work

This scope of work lays out the essential framework for the Jefferson County Hazard Mitigation Plan (HMP) update. Work will commence once notice to proceed is given by Jefferson County. Work is expected to occur over approximately 9 months with a target deadline of draft plan submission to Jefferson County by August 1, 2023. Michael Baker will work to expedite activities wherever possible to account for the HMP expiration in January 2024.

Planning Process

The initial kick-off meeting with the Hazard Mitigation Planning Committee will be an important tool to organize and plan project management with the main County points of contact. During this meeting, the Hazard Mitigation Planning Committee will be defined using the list of participants of the HMP from the 2018 plan as a starting list of invitees. Michael Baker has seen that the most effective Hazard Mitigation Planning Committees include a core leadership team from the planning and emergency management departments in concert with other county and community leaders. Michael Baker will work with the County to identify additional Hazard Mitigation Planning Committee members to round out the HMP leadership team.

The kick-off meeting will address project management items including public and virtual meetings, workshops, and final submission. Setting goals for progress, public meetings and interim deliverables at the beginning of the project will help to ensure the draft plan is ready to submit to the state by August 1st, 2023. Michael Baker understands that since this is a plan update, it is essential to understand and improve upon the existing HMP adopted by each municipality and by the County.

Michael Baker will consistently update the County and Hazard Mitigation Planning Committee throughout the process regarding how they are teking steps to address Federal Emergency Management Agency (FEMA) requirements, FEMA guidance, and steps that will lead Jefferson County to exceed state and national standards. Baker will work hand-in-hand with Jefferson County's staff to ensure the most recent, accurate data is used to develop the plan. Baker will also gather information from the County on outreach methods that have worked for the County in the past. Outreach will focus on full participation from every community in Jefferson County from the onset of the project as well as the general public.

Michael Baker will develop a municipal engagement strategy to directly involve municipal stekeholders in the planning process with the goal of engaging all municipalities. This will include organizing regional meeting that will provide municipalities with the tools and information necessary to actively participate in the full extent HMP update process.

Michael Baker understands that a strong planning process and stakeholder engagement are key factors to a successful hazard mitigation program. The following meeting topics would address key steps in the planning process to engage all stakeholders:

- ***Project Kick-Off Meeting***
- ***Hazard Analysis / Risk Assessment***
- ***Mitigation Strategy Development***
- ***Draft Plan Review***

These meetings will be designed to engage and inform stakeholders and all municipalities in an efficient, regional manner. Michael Baker's comprehensive municipal engagement strategy will provide communities with the tools and information necessary to actively participate in the HMP update process.

- ***Public Meeting:*** This meeting will be held to review the assessments, formalize the draft plan, gather input, and improve the plan prior to submission to West Virginia Emergency Management Division (WV EMD) and FEMA. This meeting will be used to build consensus and prepare municipalities for adopting the plan once it gains approval pending adoption from FEMA. Public comment will not end at this meeting, though; the County, municipalities, stakeholders, and the public will have a 30-day opportunity to review the draft plan.

The contents of each meeting may be tailored to meet the expectations of the Hazard Mitigation Planning Committee. Several tools will be distributed at these meetings to begin to gather information for municipalities that is necessary for the update. Michael Baker will invite handle invitations to the meetings described above after creating a contact database that includes municipal officials, agency representatives, and other stakeholders as needed. Electronic correspondence for meeting invitations and follow-up material will be managed by Michael Baker.

Michael Baker will coordinate with Jefferson County to ensure all relevant meeting notices, news releases, and information is also posted to the County's website and social media. All public input obtained during meetings, and through other community engegement opportunities will be reviewed by the Hazard Mitigation Planning Committee and incorporated into the HMP where appropriate.

From the beginning, the municipal, stakeholder, and public involvement process will be well documented as required by FEMA. Michael Baker has extensive experience with hazard mitigation planning and is accustomed to and familiar with the meetings and reporting process associated with this project. Michael Baker understands the importance of documenting the process in detail. Michael Baker has well established guidelines for filing which helps ensure that the final deliverable to WV EMD and FEMA is clear, organized, and complete. As an attachment to the plan Michael Baker will include a list of meeting invitees, meeting announcements, meeting minutes, meeting materials, and sign-in sheets.

Deliverables:

- Meetings and workshops and associated meeting invitations and materials
- Digital documentation of all participation efforts

Community Profile

Michael Baker will work together with the County and Hazard Mitigation Planning Committee to write a community profile that outlines the general and specific characteristics of Jefferson County. This section of the HMP summarizes what is important to protect from hazards and the geography that may contribute to hazards. Community characteristics include basic geographical, demographic, and environmental features of a County and the jurisdictions within it. This section of the plan will include the following sub-sections: Geography and Environment, Community Facts, Population and Demographics, Land Use and Development, and Data Sources and Limitations. Michael Baker will also incorporate data and information from comprehensive and transportation plans into the community profile. Together this information will reflect what is unique about Jefferson County and what is important to protect.

Capability Assessment

Michael Baker understands that mitigation strategies are strongest when they have a direct correlation with the capabilities of the County and its municipalities. Michael Baker will undergo a capability assessment that identifies strengths and deficiencies in the following areas of capability: Planning and Regulatory, Emergency Management, Participation in the National Flood Insurance Program (NFIP), Administrative and Technical, Fiscal, and Education and Outreach.

In addition, Michael Baker has been at the forefront of promoting hazard mitigation plan integration, from assisting in writing national guidance on the subject for FEMA, to training planners and emergency managers on the topic. Michael Baker's approach to plan integration identifies both how other planning documents contribute to the HMP and how the risk assessment and mitigation strategy information in the HMP can strengthen other planning efforts, including land use planning, ordinance development, and emergency response and recovery planning. Michael Baker will perform an integration analysis both at the County and municipal levels in order to highlight current integration activities and identify the best opportunities for future plan integration.

Deliverables:

- County and municipal capability assessment, including a comprehensive plan integration section

Risk Assessment

Michael Baker will build upon the County's existing risk assessment to complete a comprehensive update to date risk assessment using a combination of readily available data, interviews with county, municipal, and other stakeholders, historical research, and public input. The risk assessment will evaluate and update previously included hazards and will consider new natural and human-made hazards. Michael Baker will focus each hazard profile, vulnerability assessment, and loss estimate on the hazards identified by the community as those of concern. Each community will have the opportunity to evaluate its risk as compared to the County's. A risk factor ranking will lead directly into the mitigation strategy, the higher the risk factor value, the greater the hazard risk and, therefore, the higher a mitigation priority.

The risk assessment will focus on understanding how risks and vulnerabilities have changed since the last plan for previously profiled hazards. The last five years have seen a significant uptick in the number of Major Disaster and Emergency Declarations nationwide as well some of the worst natural disasters seen on the East Coast. The risk assessment will pay particular attention to changes in the extent and probability of each hazard as well as updating the worst-case scenarios to incorporate more recent events. Michael Baker will use the latest and best available data to update the risk assessment and will actively solicit both quantitative data and qualitative reports to augment the risk assessment.

Michael Baker has unparalleled expertise in risk assessments. Michael Baker has developed a tried-and-tested risk assessment methodology and maintains an extensive catalogue of hazard-related data in both tabular and GIS formats. Michael Baker is prepared to work closely with Jefferson County's GIS staff to ensure the hazard mitigation plan incorporatss the type and location of critical facilities – the resources vital to the continued functioning of the community. Michael Baker will combine county data with data and research from WV EMD, FEMA Region 3, the West Virginia Department of Environmental Protection (DEP), West Virginia Department of Transportation (DOT), and Conservation and West Virginia Department of Natural Resources (DNR), the US Geological Survey (USGS), National Oceanic and Atmospheric Administration (NOAA), the US Census, and other reputable sources to update the risk assessment.

Michael Baker's GIS team members will present the data included in each hazard profile in table and/or map format as appropriate and will also complete municipal-level vulnerability assessments that discuss the location of structures/parcels and critical facilities located in hazard-prone areas, including in special flood hazard areas. Michael Baker will also work with the Hazard Mitigation Planning Committee to add and customize information important to the County. Michael Baker is uniquely qualified to maximize state and County resources to develop an enhanced Hazus analysis (previously known as "Level 2 Analysis"). Michael Baker will also conduct a review of the essential facilities data in Hazus and will compare and make corrections based on County, WV EMD, West Virginia Department of Health and Human Resources, and the West Virginia Department of Education knowledge to continue refining the essential/critical facilities inventory and damage modeling. Michael Baker will integrate gathered information with Comprehensive Data Management System site-specific critical facility information.

Deliverables:

- Comprehensive risk assessment update
- Geospatial analysis identifying the number and type of properties and populations vulnerable to selected hazards, including community-level flood vulnerability maps showing critical facilities and hazard prone properties
- Hazard mapping that incorporates the best available data to illustrate location, risk, and incidence
- Enhanced Hazus analysis incorporating, at a minimum, updated demographic data, updated essential/critical facilities data,

Mitigation Strategy

The mitigation strategy is the heart of the Hazard Mitigation Plan, and it is essential that it connects back to the risks and capabilities outlined in the plan. Michael Baker will review the existing mitigation goals, objectives, and action plan to ensure the existing mitigation strategy is accurate and reflects current values of the County and municipalities. The existing mitigation actions will be reviewed with progress noted for each activity identified in the approved plan and a determination whether the action item has been complete, ongoing, incomplete, and/or whether the item should be included in the plan update. Michael Baker will compile an overview of the mitigation successes the County has achieved in the last 5 years. Michael Baker will then provide tools for the County to identify or make changes to the mitigation goals, objectives, and mitigation actions or strategies for the updated plan. Michael Baker will assist the County and Hazard Mitigation Planning Committee in identifying new mitigation actions. Michael Baker will document success on existing actions and County mitigation projects and the capability opportunities to do large mitigation projects in Jefferson County. The mitigation strategy will also provide expertise and guidance around historic and cultural resource mitigation planning specific to Jefferson County.

In addition, the mitigation actions identified by the Hazard Mitigation Planning Committee, input from meetings and the public will be compiled into a final Mitigation Strategy which will list each mitigation action; the responsible entity, community, or communities; the hazard(s) and mitigation techniques addressed; estimated cost; implementation schedule; and funding. Michael Baker understands that while the actions in the Mitigation Strategy developed by the Hazard Mitigation Planning Committee and public will be pursued over the next five years, the reality of limited time and resources requires the identification of high priority mitigation actions. Prioritization allows the individuals and organizations involved to focus their energies and ensure progress on mitigation activities. Michael Baker will work with the Hazard Mitigation Planning Committee to prioritize the mitigation actions and evaluate the feasibility of mitigation actions. Once the mitigaiton actions have been developed and prioritized, Michael Baker will draft, finalize, and incorporate the Mitigation Strategy into the main document.

Deliverables:

- Evaluation of prior plan's mitigation goals and objectives
- Status update for each prior hazard mitigation action
- Detailed mitigation strategy, including a prioritization of the identified mitigation actions

Plan Maintenance

Hazard mitigation planning occurs on a regular, five-year schedule, but continuous and regular plan maintenance helps ensure the plan remains current and dynamic. Michael Baker will work with the County to identify and capture plan maintenance that has occurred in the previous five years and will determine a feasible plan maintenance schedule and process for the future. This will ensure that the plan update is monitored, evaluated, and updated. This portion of the plan will identify the office and individual responsible for plan maintenance and will provide suggestions for gathering information from each municipality in between plan updates. Finally, the plan maintenance section will address how the County intends to ensure continuous public involvement in the plan and future updates.

Deliverables:

- Plan maintenance section and plan update schedule

Writing the Plan Document

Michael Baker will write the hazard mitigation plan update, incorporating research, municipal and County feedback, and public comment collected throughout the engagement process. The plan document will include a description of the authority and references consulted to complete the plan update; a community profile and asset inventory; a description and documentation of the planning process; the risk assessment, hazard profiles, and vulnerability and loss assessment; a discussion of both County and municipal capabilities and NFIP participation and compliance; the mitigation strategy; a plan maintenance and update process and schedule; and plan adoption information. The plan will also include a complete bibliography, a completed Local Plan Review Tool, and documentation of all plan meetings and outreach efforts.

After the plan is drafted, County officials, members of the Hazard Mitigation Planning Committee, and the general public will have the opportunity to provide comments and feedback prior to submission to WV EMD and FEMA Region III. Michael Baker proposes that the plan be online via the County's website. Having the plan online allows any interested party to review the plan at their convenience/ The website will incorporate a feedback form, allowing for instant collection of feedback on the plan. Michael Baker will complete and submit an accurate Local Plan Review Tool, or crosswalk, to WV EMD and FEMA Region III with the draft HMP. Michael Baker will address and resolve any comments received from the County prior to submitting the plan update to WV EMD. Revisions identified by the state and FEMA will be addressed so that the plan may quickly gain approval-pending-adoption status.

Deliverables:

- An approved-pending-adoption (APA) hazard mitigation plan
- Five paper copies and 5 CDs of the Draft Hazard Mitigation Plan update

Plan Adoption and Approval

Plan adoption and approval helps ensure that Jefferson County's mitigation strategies go from plan to reality in a reasonable amount of time. Michael Baker understands the importance, and the requirement, of receiving approval-pending-adoption on the plan so that the County and municipalities can proceed in adopting the plan and become eligible for Hazard Mitigation Assistance funds. Michael Baker will work with the County to send an email notification

to all municipalities with the Adoption Resolution and steps for submitting their signed resolutions to the County. The County will have one year from the first municipal adoption to gain the adoption from the remaining municipalities.

Deliverables:

- Email notification of Approval-Pending-Adoption with adoption steps and resources

DocuSign Envelope ID: B716CD7C-445A-44A4-801D-CE8636A7183A

EXHIBIT B
Compensation and Payment

MICHAEL BAKER will invoice the **CLIENT** on a milestone basis for services rendered. Total compensation for labor and expenses to **MICHAEL BAKER** shall not exceed $57,000.00 for services outlined in Exhibit A.

Tasks	Total Hours	Total Cost
1 - Planning Process	130	$15,600
2 - Risk and Capability Assessment	108	$12,960
3 - Mitigation Strategy and Plan Maintenance	90	$10,800
4 - Writing the Plan Document	110	$13,200
5 - Plan Adoption and Approval	7	$840
6 - Project Management	30	$3,600
TOTAL	**480**	**$57,000**

JEFFERSON COUNTY COMMISSION
AGENDA REQUEST FORM

Name: Nathan Cochran

Department or Organization: Prosecuting Attorney's Office

Commission Meeting Date: January 4, 2024

Special Meeting Date (if necessary):

Subject (*wording to be placed on agenda*):

Report by legal counsel

Please provide a description of your request or presentation, including any background information:

See attached

Type of Request: (Funding/Hiring): N/A

Funding/Salary/Hourly Amount: N/A

Name of Hire (if Applicable): N/A

Grade/Step/Hours (PT/FT): N/A

Start Date (beginning of pay period): N/A

Post Probationary Increase (If applicable): N/A

Any Additional Conditions of Employment or Funding Comments:

N/A

Recommended Motion (*type out wording of the motion you would like the Commission to approve*):

N/A

Attach supporting documents for request, or request may be denied.
If not attached, explain:

Is equipment needed? ☐ Projector ☐ Internet/Wi Fi: ☐ Conference/Video ☑ No

Contact Information: Jaymee Houser Phone Number: 304-728-3318

Email Address: jhouser@jcpawv.org

JEFFERSON COUNTY COMMISSION
AGENDA REQUEST FORM

Additional Comments Page:

a. Discussion of legal issues and potential action regarding past and current solar litigation including Jefferson County Circuit Court Civil Action No. 2023-C-112 [Rockwell v. JCC, JCPC and JCBZA] and WV Supreme Court of Appeals No. 23-0369 (appeal of Jefferson County Circuit Court Civil Action No. 2022-C-141).

b. Memorandum of Understanding for Department of Homeland Security.

c. Report by counsel on the status of the advisory opinion regarding the Planning Commission committee meetings.

d. Discussion of legal issues and potential action regarding Jefferson County Circuit Court Civil Action No. 2023-C-266 [Adam McDowell, individually and on behalf of Shannondale Vista Association v. JCPC and JCC].

e. Discussion of legal issues and potential action regarding Jefferson County Circuit Court Civil Action No. 2023-P-112 [JCC v. Steve Cox].

JEFFERSON COUNTY COMMISSION
AGENDA REQUEST FORM

Name: Commissioner Tricia Jackson

Department or Organization: County Commission

Commission Meeting Date: 1/18/2024

Special Meeting Date (if necessary):

Subject (*wording to be placed on agenda*):

Update to the County Commission from Nathan Cochran on the advisory opinion request from the ethics commission related to the Planning Commission and its subcommittees abiding by the open meetings act.

Please provide a description of your request or presentation, including any background information:

The County Commission voted unanimously on 12/21/23 for legal counsel to seek an advisory opinion from the ethics commission, including but not limited to the ordinance rewrite, solar facilities, and budget committees are subject to abiding by the open meetings act to include published agenda and meeting minutes. The update should include all correspondence or communication to and from the ethics commission related to this advisory opinion.

Type of Request: (Funding/Hiring):

Funding/Salary/Hourly Amount:

Name of Hire (if Applicable):

Grade/Step/Hours (PT/FT):

Start Date (beginning of pay period):

Post Probationary Increase (If applicable):

Any Additional Conditions of Employment or Funding Comments:

Recommended Motion (*type out wording of the motion you would like the Commission to approve*):

Attach supporting documents for request, or request may be denied.
If not attached, explain:

Is equipment needed? ☐ Projector ☐ Internet/Wi Fi: ☐ Conference/Video ☑ No

Contact Information: Commissioner Tricia Jackson Phone Number: 304-449-4793

Email Address: commissioner.triciajackson@gmail.com

JEFFERSON COUNTY COMMISSION
AGENDA REQUEST FORM

Additional Comments Page:

AGENDA REQUEST FORM

www.jeffersoncountywv.org

Name: **Jennifer Krouse**

Department or Organization: **Commissioner**

Estimation of amount of time needed for appointment: **15 minutes**

Date Requested – 1st Choice: **January 18, 2024**
If a specific date is needed, please provide reason for specific date:

Date Requested – 2nd Choice:

Subject (*Wording to be placed on agenda*): **Discussion and possible action on revising Agenda Policy 900 to clarify when/how agenda items may be declined.**

Please provide the County Commission with a description of your request or presentation, including any background information:

Is this a funding request? Y/N
If so, how much? $
Provide exact financial impact/request:

Recommended motion (*Please type out the wording of the motion that you would like the Commission to approve*):

Attach supporting documents for request, or request may be denied. **Current Policy, Proposed Policy, Redlined Policy**
If not attached, explain:

Is equipment needed? Projector Y/N Internet/Wi Fi Y/N Telephone for conference call Y/N

Contact information:
Email address: Phone Number:

FOR COMMISSION STAFF USE ONLY – FINANCIAL IMPACT/RECOMMENDATION
not applicable

	Jefferson County Policies & Procedures		
Policy Name:	Agenda Policy	Approved:	9/13/2012
Policy Number:	900	Author:	Keyser
Associated:			Original 5-7-2009 Revised 9-1-2011 Revised 9-13-2012 Revised 04-06-2017 Revised 05-03-2021

PURPOSE:

To provide a comprehensive and uniform process for formulating the agenda of the County Commission of Jefferson County.

POLICY:

The County Commission of Jefferson County is committed to providing open and accessible governmental proceedings and wishes to provide its citizens with information concerning the business of the County Commission and county government.

PROCEDURE:

Regularly scheduled County Commission meetings are held each month during the following times:

- 1st Thursday of the month – start time: 9:30 am
- 3rd Thursday of the month – start time: 6:00 pm
- AS OF JANUARY 21, 2021, the Commission no longer holds regularly scheduled meetings on months that happen to have a fifth Thursday.

The Agenda for each County Commission meeting is prepared by the Commission staff.

The County Commission agenda closes at 12:00 noon, one week prior to the regularly scheduled County Commission meeting. All appointments for the County Commission agenda are made with the County Commission staff prior to the 12:00 noon deadline. Submissions for new business items and information items must be submitted to Commission staff by the same12:00 noon deadline.

An Agenda Request Form and any supporting documentation must be submitted by the 12:00 noon deadline in order to be placed on the Agenda. Ex: If the County Commission meets on Thursday, appointments must be made and new business and informational items submitted by 12:00 noon one week preceding the Thursday you are requesting to come before the County Commission. The County Commission requires written documentation and materials for appointments and items of new business. Requests for

appointments and items submitted after this time will be carried over for the next agenda. Failure to submit all proper paperwork will also be carried over for the next agenda. Handouts at the meeting are unacceptable if they have not been included in your package one week in advance.

Appointments shall be 15 minutes unless it is determined less time is needed. Every attempt will be made to have the last appointment at 11:30 a.m.

New and old business items shall be reviewed and executed between scheduled appointments or when time permits.

County departments shall submit all materials in both digital and hard copy format to the Commission office.

When submitting an item for the agenda, the requesting department, organization or individual shall indicate the desired action of the County Commission i.e., Discussion, Discussion/Action, Introduction, Presentation or Information. All Action Items shall include the Action being requested of the County Commission. Items not indicating the requested action will be withheld from the agenda until the proper information is provided.

Any agenda request that contains a funding request or impact to an existing approved budget requires review by the County's Finance Director before it will be included on the Commission's agenda. The Finance Director shall be responsible for reviewing requests in a timely fashion to meet the agenda deadlines contained in this policy. If a Department Head, Elected Official, or designated representative fails to contact the County Finance Director prior to making an agenda request for funding, the item will be withheld from the agenda until such time as the requestor reviews the request with the County Finance Director.

The County Commission Staff in coordination with the President of the County Commission shall be responsible for setting the agenda for each meeting. If more requests than can be considered at a regular meeting are received, then lower priority items will be placed on the next regular meeting's agenda.

Individuals wishing to express their opinions are encouraged to provide their comments during the Public Comment section of the agenda. During Public Comment individuals may express their views for the allotted period of time, however, the Commission cannot respond to you, your comments or requests. Individuals wishing to address the Commission outside the Public Comment forum must receive approval from either/or the President of the Commission and County Administrator or through a consensus of three or more Commissioners.

It is not appropriate for the Commission to publicly discuss personnel matters about an individual employee, and all discussions regarding personnel matters should be conducted in an executive session, unless requested differently by the employee.

Additionally, it is inappropriate to discuss personnel matters, including employee performance issues, with individual citizens either in a public or executive session.

Both the Freedom of Information Act codified at W.Va. Code §29B-1-1 *et seq.* and the Open Governmental Proceedings Act codified at W.Va. Code 6-9A-1 *et seq.* protect an employee's personnel records and performance from disclosure to individual citizens and create an obligation on behalf of the Commission to protect employee records from public disclosure. Because discussions of personnel issues with private citizens violate an employee's privacy, the Commission will decline an agenda request from any member of the public that seeks to discuss any employee evaluation or performance with the Commission, regardless of whether such request is intended to be negative or positive.

The agenda will be available by the close of business, three days preceding the County Commission meeting. Ex: If the County Commission meets on Thursday, the agenda will be available Monday at the close of business. In the event that a holiday falls on a Monday, the agenda will be available at 5:00 p.m. on Friday preceding the meeting.

The agenda is available in the Office of the County Commission and on the County website at www.jeffersoncountywv.org. A PDF formatted file of the agenda packet will be available at this site. Links to specific agenda items will be available when practical.

If you require visual equipment for your appointment with the County Commission, please notify the Commission staff when scheduling your appointment.

At all times, the County Commission reserves the right to deny a topic, rearrange agenda items because of time constraints, and to accommodate the Commission's schedule or the public's schedule.

	Jefferson County Policies & Procedures		
Policy Name:	Agenda Policy	Approved:	9/13/2012
Policy Number:	900	Author:	Keyser
Associated:			Original 5-7-2009 Revised 9-1-2011 Revised 9-13-2012 Revised 04-06-2017 Revised 05-03-2021

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Appointments shall be 15 minutes unless it is determined less time is needed. Every attempt will be made to have the last appointment at 11:30 a.m.

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The County Commission Staff in coordination with the President of the County Commission shall be responsible for setting the agenda for each meeting. If more requests than can be considered at a regular meeting are received, then lower priority items will be placed on the next regular meeting's agenda.

Subject to the time considerations described in the paragraph above, all properly formatted and submitted agenda items will be placed on the agenda unless denied in writing (either hard copy or electronic) by a majority of seated commissioners. A record will be kept of all rejected agenda items. Such record will include a copy of the rejected Agenda Request Form as well as a copy of the written denials by all commissioners rejecting the item. Agenda items submitted by seated commissioners cannot be rejected.

Individuals wishing to express their opinions are encouraged to provide their comments during the Public Comment section of the agenda. During Public Comment individuals may express their views for the allotted period of time, however, the Commission cannot respond to comments or requests. Individuals wishing to address the Commission outside

the Public Comment forum must submit an Agenda Request Form as described above.

It is not appropriate for the Commission to publicly discuss personnel matters about an individual employee, and all discussions regarding personnel matters should be conducted in an executive session, unless requested differently by the employee. Additionally, it is inappropriate to discuss personnel matters, including employee performance issues, with individual citizens either in a public or executive session.

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At all times, the County Commission reserves the right to, by a majority vote of those present at a meeting, deny a topic, move a topic to the next meeting, or rearrange agenda items due to time constraints, or to accommodate the Commission's schedule or the public's schedule. However, nothing in this paragraph should be construed to allow a seated Commissioner's topic to be denied or moved without the express consent of the Commissioner who submitted the topic.

	Jefferson County Policies & Procedures		
Policy Name:	Agenda Policy	Approved:	9/13/2012
Policy Number:	900	Author:	Keyser
Associated:			Original 5-7-2009 Revised 9-1-2011 Revised 9-13-2012 Revised 04-06-2017 Revised 05-03-2021

PURPOSE:

To provide a comprehensive and uniform process for formulating the agenda of the County Commission of Jefferson County.

POLICY:

The County Commission of Jefferson County is committed to providing open and accessible governmental proceedings and wishes to provide its citizens with information concerning the business of the County Commission and county government.

PROCEDURE:

Regularly scheduled County Commission meetings are held each month during the following times:

- 1st Thursday of the month – start time: 9:30 am
- 3rd Thursday of the month – start time: 6:00 pm
- AS OF JANUARY 21, 2021, the Commission no longer holds regularly scheduled meetings on months that happen to have a fifth Thursday.

The Agenda for each County Commission meeting is prepared by the Commission staff.

The County Commission agenda closes at 12:00 noon, one week prior to the regularly scheduled County Commission meeting. All appointments for the County Commission agenda are made with the County Commission staff prior to the 12:00 noon deadline. Submissions for new business items and information items must be submitted to Commission staff by the same12:00 noon deadline.

An Agenda Request Form and any supporting documentation must be submitted by the 12:00 noon deadline in order to be placed on the Agenda. Ex: If the County Commission meets on Thursday, appointments must be made and new business and informational items submitted by 12:00 noon one week preceding the Thursday you are requesting to come before the County Commission. The County Commission requires written documentation and materials for appointments and items of new business. Requests for

appointments and items submitted after this time will be carried over for the next agenda. Failure to submit all proper paperwork will also be carried over for the next agenda. Handouts at the meeting are unacceptable if they have not been included in your package one week in advance.

Appointments shall be 15 minutes unless it is determined less time is needed. Every attempt will be made to have the last appointment at 11:30 a.m.

New and old business items shall be reviewed and executed between scheduled appointments or when time permits.

County departments shall submit all materials in both digital and hard copy format to the Commission office.

When submitting an item for the agenda, the requesting department, organization or individual shall indicate the desired action of the County Commission i.e., Discussion, Discussion/Action, Introduction, Presentation or Information. All Action Items shall include the Action being requested of the County Commission. Items not indicating the requested action will be withheld from the agenda until the proper information is provided.

Any agenda request that contains a funding request or impact to an existing approved budget requires review by the County's Finance Director before it will be included on the Commission's agenda. The Finance Director shall be responsible for reviewing requests in a timely fashion to meet the agenda deadlines contained in this policy. If a Department Head, Elected Official, or designated representative fails to contact the County Finance Director prior to making an agenda request for funding, the item will be withheld from the agenda until such time as the requestor reviews the request with the County Finance Director.

The County Commission Staff in coordination with the President of the County Commission shall be responsible for setting the agenda for each meeting. If more requests than can be considered at a regular meeting are received, then lower priority items will be placed on the next regular meeting's agenda.

Subject to the time considerations described in the paragraph above, all properly formatted and submitted agenda items will be placed on the agenda unless denied in writing (either hard copy or electronic) by a majority of seated commissioners. A record will be kept of all rejected agenda items. Such record will include a copy of the rejected Agenda Request Form as well as a copy of the written denials by all commissioners rejecting the item. Agenda items submitted by seated commissioners cannot be rejected.

Individuals wishing to express their opinions are encouraged to provide their comments during the Public Comment section of the agenda. During Public Comment individuals may express their views for the allotted period of time, however, the Commission cannot respond to ~~you, your~~ comments or requests. Individuals wishing to address the

Commission outside the Public Comment forum must ~~receive approval from either/or the President of the Commission and County Administrator or through a consensus of three or more Commissioners~~submit an Agenda Request Form as described above.

It is not appropriate for the Commission to publicly discuss personnel matters about an individual employee, and all discussions regarding personnel matters should be conducted in an executive session, unless requested differently by the employee. Additionally, it is inappropriate to discuss personnel matters, including employee performance issues, with individual citizens either in a public or executive session.

Both the Freedom of Information Act codified at W.Va. Code §29B-1-1 *et seq.* and the Open Governmental Proceedings Act codified at W.Va. Code 6-9A-1 *et seq.* protect an employee's personnel records and performance from disclosure to individual citizens and create an obligation on behalf of the Commission to protect employee records from public disclosure. Because discussions of personnel issues with private citizens violate an employee's privacy, the Commission will decline an agenda request from any member of the public that seeks to discuss any employee evaluation or performance with the Commission, regardless of whether such request is intended to be negative or positive.

The agenda will be available by the close of business, three days preceding the County Commission meeting. Ex: If the County Commission meets on Thursday, the agenda will be available Monday at the close of business. In the event that a holiday falls on a Monday, the agenda will be available at 5:00 p.m. on Friday preceding the meeting.

The agenda is available in the Office of the County Commission and on the County website at www.jeffersoncountywv.org. A PDF formatted file of the agenda packet will be available at this site. Links to specific agenda items will be available when practical.

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AGENDA REQUEST FORM

www.jeffersoncountywv.org

Name: Pasha Majdi

Department or Organization: Jefferson County Commission

Estimation of amount of time needed for appointment:

Date Requested – 1st Choice: **Thursday, January 4, 2024**
If a specific date is needed, please provide reason for specific date:

Date Requested – 2nd Choice:

Subject (*Wording to be placed on agenda*):

Continuity of emergency services protocol

Please provide the County Commission with a description of your request or presentation, including any background information:

Is this a funding request? Y/**N**
If so, how much? $
Provide exact financial impact/request:

Recommended motion (*Please type out the wording of the motion that you would like the Commission to approve*):

Move to direct county staff to draft a protocol in conformance with state law to maintain continuity of emergency services if the Commission is unable to meet or otherwise unable to approve expenditures;

Further move to draft and send a letter, in consultation with the Count Attorney, to appropriate representatives requesting changes in state law as needed to provide for effective continuity of emergency services if the Commission is unable to meet or otherwise unable to approve expenditures.

Attach supporting documents for request, or request may be denied.
If not attached, explain:

Is equipment needed? Projector Y/N Internet/Wi Fi Y/N Telephone for conference call Y/N

Contact information:
Email address: pmajdi@jeffersoncountywv.org Phone Number: (304) 306-0997

FOR COMMISSION STAFF USE ONLY – FINANCIAL IMPACT/RECOMMENDATION
not applicable

AGENDA REQUEST FORM

www.jeffersoncountywv.org

Name: Edwina Benites, Interim County Administrator

Department or Organization: Jefferson County Commission

Estimation of amount of time needed for appointment:

Date Requested – 1st Choice: **January 18, 2024**
If a specific date is needed, please provide reason for specific date:

Date Requested – 2nd Choice:

Subject (*Wording to be placed on agenda*): **Interim County Administrator Reports**

1. Legislative summary
2. Update on hiring solicitations
3. Emergency Services Agency onboarding
4. Update on TIF lawyer
5. Draft budget schedule
6. BORE workshop date request (action requested)
7. Follow up on the Harvest Hills vote
8. Follow up on amplified sound/ displaying the text of proposed motions
9. Boards training
10. Cox HollidaYoung engagement letter (action requested)

Please provide the County Commission with a description of your request or presentation, including any background information:

Is this a funding request? Y/N NO
If so, how much? $
Provide exact financial impact/request:

Recommended motion (*Please type out the wording of the motion thot you would like the Commission to approve*):

Attach supporting documents for request, or request may be denied.
If not attached, explain:

Is equipment needed? Projector Y/N Internet/Wi Fi Y/N. Telephone for conference call Y/N

Contact information:
Email address: Phone Number:

FOR COMMISSION STAFF USE ONLY – FINANCIAL IMPACT/RECOMMENDATION

JEFFERSON COUNTY COMMISSION

124 East Washington Street, P.O. Box 250, Charles Town, WV 25414
Phone: (304) 728-3284 **Fax:** (304) 725-7916
Web: www.jeffersoncountywv.org

PRESIDENT
Steve Stolipher

VICE PRESIDENT
Jane Tabb

COMMISSIONER
Tricia Jackson

COMMISSIONER
Jennifer Krouse

COMMISSIONER
Pasha Majdi

To: Commissioner Tricia Jackson
Commissioner Jennifer Krouse
Commissioner Pasha Majdi
Commissioner Steve Stolipher
Commissioner Jane Tabb

From: Edwina Benites-LM, interim county administrator

Date: January 11, 2024

Re: Interim County Administrator Report, January 11, 2024

Summary:

- Legislative summary (Attachment 1 of 3)
- Update on the hiring solicitations
- Emergency Services Agency onboarding
- TIF lawyer
- Draft budget schedule (Attachment 2 of 3)
- CoxHollidaYoung engagement letter (recommended action) (Attachment 3 of 3)
- BORE workshop date request (recommended action)
- Follow up on the Harvest Hills vote (recommended action)
- Follow up on amplified sound/ displaying the text of proposed motions
- Boards training

Legislative summary:

Attached is the legislative summary provided by the County Commissioners' Association of West Virginia. Please let me know if there are any legislative priorities of interest.

Update on hiring solicitations:

Total applications received:
- County Administrator- 11
- Deputy County Administrator- 31 (This is in addition to the applications previously received)

The positions were posted in the following places:
- Eastern Panhandle Society for Human Resources
- Blue Ridge Community and Technical College
- Shepherd alumni career network
- LinkedIn (county administrator position only- additionally postings incur a fee)
- Indeed
- Jefferson County website
- Constituent email alerts

- Internal employee alerts
- The County Commissioners' Association of West Virginia listserv

Staff plans to submit additional job postings through the National Association of Counties, the West Virginia Municipal League, and the West Virginia Association of Counties. I know of no other County position that has received this level of solicitation.

The deputy county administrator position closes on February 5, 2024. The county administrator position closes on February 16, 2024.

Emergency Services Agency onboarding

As of 1/11, staff leadership, payroll, JCESA, and legal staff have worked through policies 101 through 208 to review and suggest changes to the Commission for onboarding JCESA. My hope is to finalize the review and circulate draft changes among JCESA staff so that the Commission can approve the required policy changes to move the JCESA into Tyler.

The new deputy administrator should be tasked with reviewing the non-payroll employee policies.

TIF lawyer

On September 7, 2023, the Jefferson County Commission tasked the county administrator with hiring outside counsel to advise regarding the Hilltop House and tax increment financing (TIF). I have the name of three attorneys versed in TIFs, and I am looking to hire one soon.

Budget Draft Schedule

Attached is the budget draft schedule. Please let me know if you have any questions or concerns.

Jacki Shadle shared budget training that will soon be held by the State Auditor's office. Both Bessie Nelson and I will attend this training.

Cox HollidaYoung engagement letter

Commissioner Jackson recommend looking into hiring CoxHollidaYoung to assist with budget services often provided with by a county chief financial officer. Additionally, Ms. Jackson let me know that CoxHollidaYoung provides similar services for Berkeley County.

I investigated CoxHollidaYoung and found that the County has an existing accounting agreement with them. I asked that CoxHollidaYoung provide an engagement letter to extend our current accounting services contract. The engagement letter is attached.

I agree with Ms. Jackson that expanding on our current agreement with CoxHollidaYoung is prudent, cost savings over hiring a chief financial officer, and timely.

I recommend the following motion:

- Motion to approve the CoxHollidaYoung engagement letter to provide budget preparation services.

BORE workshop date request

The Jefferson County Commission requested a workshop to learn more about the Board of Review and Equalization (BORE). I sent several dates to commissioners to ascertain availability.

I recommend the following motion:

- Motion to hold a Board of Review and Equalization (BORE) workshop on Tuesday, January 30th at 9:30 am.

Follow up on the Harvest Hills vote:

After the January 4, 2024, Commission meeting, I was notified by commissioners and the public concerned that the "public packet" published online differed from the printed packet given to commissioners. I consulted staff, commissioners, and the applicant to recommend delaying action until additional public action could occur. No one expressed opposition to the transparency action.

I sent an email to the Planning Commission with my concerns.

The Planning Commission has yet to take action on the Harvest Hill application.

I recommend the following action to reconsider the Harvest Hills application and "restart the clock:"

- Motion to rescind the January 4, 2024, vote on the Harvest Hills Subdivision Phase II-request for Zoning Map Amendment.

Follow up on amplified sound/ displaying the text of proposed motions:

I am meeting with the IT and Fleets and Facilities departments on Friday, January 12, 2024, to discuss options.

Boards training:

I am encouraging staff and boards to take ethics and Open Meetings Act trainings. Below are two options.

Jefferson County Parks and Recreation is hosting a training on January 17th at 7 pm via Zoom.
https://us02web.zoom.us/j/87842521381?pwd=MW5IcHNqWjNnTEt1Y3lLb1BzQUJSZz09

Meeting ID: 878 4252 1381
Passcode: 041764

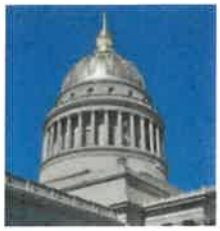
The Ethics Commission is hosting a mid-day training, February 8th at noon via GoogleMeets:
https://meet.google.com/tvm-kdwd-dhr?hs=224

These trainings will be shared with our boards and with the public via the Alert system and social media. All are encouraged to attend.

M·A·P and Associates

Legislative Update

January 11, 2024



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Governor Proposes Tax Breaks and Spending Priorities

Gov. Jim Justice wants the West Virginia Legislature to give state workers and public school employees another pay raise averaging 5 percent and to pass three tax breaks targeted at certain groups of West Virginians. Those are a few of the proposals he has made, but his final State of the State address as governor Wednesday evening was much heavier on reminiscing about what he and legislators have gone through over the last seven years than on plans for the year ahead.

The pay raise for public employees would be the fifth one since Justice became governor in 2017. He said it would help them cope with recent increases in their premiums for health care insurance through the Public Employees Insurance Agency.

Last year, the legislature approved a 21.25 percent cut in the personal income tax, and another cut could be triggered later this year if state finances remain healthy enough. But for now, Justice is seeking three other tax breaks to help specific people, such as young working adults and senior citizens.

"I'm proposing a child and dependent care tax credit where folks that are struggling with day care [expenses] can at least write them off against their revenue," he said. "We need this very badly, and we need it right now."

The other tax break Justice wants would exclude Social Security benefits from the state income tax and expand the property tax cut senior citizens get from the homestead exemption.

Even though the personal income tax cut has reduced some of the revenue the state might have received, revenues are still coming in higher than projected. Justice said he intends to use some of the budget surplus, which currently is running at more than $400 million, to cover his proposed tax breaks and other initiatives.

"My administration does not believe in growing government, and my administration does not believe in dipping into our Rainy Day Fund," he said. "We use surpluses. We use earnings to absolutely make choices to do projects to grow this state, but we've got to do it while minding that store."

"My administration does not believe in growing government, and my administration does not believe in dipping into our Rainy Day Fund." – Gov. Jim Justice

Among his spending priorities are $150 million for the School Building Authority, $50 million for a new agriculture laboratory to be built at West Virginia State University in Institute, $20 million for senior centers, $15 million for the state park system, $10 million for volunteer fire departments and emergency medical services, $5 million to help start charter schools, and $2 million for veterans' homes. In addition, he wants to spend another $10 million on a program that encourages West Virginians to go into EMS work. It already has increased the number of emergency medical technicians from 542 in 2021 to 938 in 2023.

"It is amazing so many West Virginians are now working and have become EMTs," Justice said. "We needed them – and we needed them so badly."

Likewise, he wants to spend another $30 million on an effort that already has spent $48 million to increase the number of nurses in West Virginia. Justice also wants to do more to attract Child Protective Service workers, foster care parents and correctional system employees. He expressed hope that the emergency in state prisons and jails, which has been in effect since 2022, might end by the end of summer, meaning National Guard members no longer would be needed to fill vacancies. He noted that 227 individuals have recently completed training to work in the corrections system.

"We are downsizing as we speak the National Guard in our facilities," Justice said. "It is my hope beyond belief that by the end of summer, the National Guard will be out of our facilities, and we will have solved this problem in many ways."

For veterans, he wants to provide in-state tuition for any veteran who wants to pursue higher education and extend the Ascend program to entice more veterans to settle in West

Virginia. Ascend is designed attract people who can work remotely by offering them $12,000 plus free outdoor recreation if they relocate to West Virginia.

In addition to those initiatives, Justice wants legislators to undo an initiative they passed last year – the one that has allowed high school athletes more flexibility in transferring schools. In 2023, he didn't like the bill that did that, but he let it become law without his signature rather than face what he thought would be an inevitable override if he vetoed the bill. Since then, Justice has been among many people who have complained that the new transfer rule has thrown high school sports out of balance.

> ***"Now I don't know exactly what the right solution is, but I'm telling you there's some dad-gum smart people in this room, and today, I am absolutely pleading with you to figure it out." – Gov. Jim Justice***

"Now I don't know exactly what the right solution is, but I'm telling you there's some dad-gum smart people in this room, and today, I am absolutely pleading with you to figure it out," he said.

Those legislative proposals came after Justice spent a long time recounting what he sees as the progress West Virginia has made during his seven years as governor.

"The first time you saw me, I stood before you pledging to fight for the soul of our state," he said early in his address. "We were staring down a dark tunnel. Our state was bankrupt. Our jobs and our people were leaving, and our spirit was broken. You remember those days? You remember what that was like? It wasn't any fun, was it?"

Justice said last year's cut in the personal income tax is one example of how he has fulfilled the pledge he made in the beginning to take West Virginia on a "rocket ship" ride to better times.

"We're at a different place today," he said. "With all that together, what happened? The rocket ship took off, didn't it?"

This was his last State of the State address because he is finishing his second four-year term as governor and is constitutionally prevented from seeking a third consecutive term. Instead, he is running in the Republican primary to replace Democrat Joe Manchin in the U.S. Senate. Some State of the State addresses in the past have lasted only an hour or less, but Justice spoke for one hour and 25 minutes this time.

"I would say to you, we're a long ways from being done in West Virginia," Justice said. "We've got jobs to create, schools to enhance and communities to lift, so let's make this last year that we have and the decades to come better and better and better."

Administration Presents Budget to Finance Committees

The Justice administration has given the West Virginia Legislature a revenue estimate of $5.265 billion and a general revenue fund budget that would spend $5.22 billion, up from the

$4.87 billion appropriated for the current fiscal year. As the administration has done in recent years under Gov. Jim Justice, it is keeping the revenue estimate relatively flat, which means the state likely will run up more surpluses later this year and into the first half of 2025, when a new governor will take over.

"That's about a $340 million increase over last year," acting Revenue Secretary Larry Pack told the Senate Finance Committee this morning. He and other administration officials presented details of the proposed budget to members of that committee and the House Finance Committee today, one day after Justice announced his priorities in his State of the State address.

"I think those increases are mostly a reflection of inflation," Pack said. "The biggest number is the average 5 percent pay increase for our state employees of $123 million."

"I think those increases are mostly a reflection of inflation." – Secretary Larry Pack

Three tax breaks Justice has proposed are estimated to cost $49.7 million. They include a tax credit for child and dependent care, exemption of Social Security benefits from the state income tax, and expansion of the homestead exemption from property taxes for senior citizens.

Pack said the administration's budget also would make these allocations:

- $21 million for administrative costs and services related to Medicaid and the Children's Health Insurance Program
- $4.6 million for the Chief Medical Examiner's Office
- $30 million for tourism
- $3 million for veterans
- $42 million for the Public Employees Insurance Agency
- $21 million for the corrections system

"Two onetime expenditures are in the budget," Pack said. "A onetime $100 million expenditure for congressional earmarks and floods to be able to meet those obligations…and a onetime $50 million expenditure for contract nursing services at our state hospitals."

In addition to proposals for the 2025 fiscal year, which will begin in July, the administration is proposing supplemental appropriations to use some of budget surplus from the previous fiscal year. Pack said those proposed onetime appropriations include:

- $150 million for the School Building Authority
- $5 million for seed funding for charter schools
- $50 million for nursing expenses at two state psychiatric hospitals, Sharpe and Bateman
- $10 million for the Posey Perry Emergency Food Fund
- $30 million for the Nursing Workforce Expansion program

The state is running a surplus of more than $400 million in the current fiscal year's budget, and Pack said, the administration is expecting that surplus to go even higher before the

fiscal year ends in June. One thing the administration would like to do with that money is to spend another $40.6 million on Medicaid. In addition, the administration supports raising taxes on managed care organizations to bring in $114 million in federal funds for Medicaid.

Other uses for the expected surplus in this fiscal year's budget include: $20 million for senior centers and programs, $5 million for the military version of the Ascend program to encourage veterans to reside and work in West Virginia, $10 million for Communities in Schools, $3 million for crisis pregnancy centers, $100 million for rural hospitals, $10 million for equipment for emergency medical services and volunteer fire departments, and $50 million for an agriculture laboratory.

About the $100 million for rural hospitals, Pack said it would go into a fund to help the hospitals on basis of need. "People would make applications," he said. "We'd do the last dollar in. We want to leverage the money. We don't want to give $10 for a $10 project. We'd like to give $2 for a $10 project."

> ***"We don't want to give $10 for a $10 project. We'd like to give $2 for a $10 project." – Secretary Larry Pack***

Sen. Mike Oliverio, R-Monongalia, asked if state-owned hospitals would be eligible for some of that money. Pack replied, "We believe that it's prudent for the state to get out of the hospital business." He said the state already is in discussions to transfer ownership of the Welch Hospital and is putting together plans to do the same with state-run nursing homes.

"The problem with staying in those businesses is just the amount of capital it would take to bring those facilities up to current standards," Pack said. In addition, he said, the constraints of state government, including purchasing requirements, make it almost impossible for those facilities to do everything they need to do.

Oliverio then suggested that the job of Michael Caruso, the new secretary of the Department of Health Facilities, is to work himself out of a job. Pack said, "I think he would tell you that that is how the job was presented to him."

On the issue of eliminating taxes on Social Security benefits, he said, West Virginia is one of only 11 states that tax any portion of Social Security benefits. "We would like to remove West Virginia from that list of outliers," he said. "It's about a $37 million tax cut for our West Virginia taxpayers."

Pack said the proposed increase in the homestead exemption on property taxes for senior citizens would be for those at low-income levels. It would increase income eligibility from 150 percent of the federal poverty level to 200 percent of that level at a cost to the state of $2 million to $3 million.

Senate Finance Chairman Eric Tarr, R-Putnam, expressed concern that hundreds of millions of dollars of the administration's proposals might build the base budget, requiring funding year after year.

2024 Legislative Calendar

First Day - January 10, 2024: First day of session. *(WV Const. Art. VI, §18)*

Twentieth Day - January 29, 2024: Submission of Legislative Rule-Making Review bills due. *(WV Code §29A-3-12)*

Thirty-fifth Day - February 13, 2024: Last day to introduce bills in the House. *House Rule 91a* does not apply to originating or supplementary appropriation bills, and does not apply to Senate or House resolutions or concurrent resolutions.

Forty-first Day - February 19, 2024: Last day to introduce bills in the Senate. *Senate Rule 14* does not apply to originating or supplementary appropriation bills, and does not apply to Senate or House resolutions or concurrent resolutions.

Forty-seventh Day - February 25, 2024: Bills due out of committees in house of origin to ensure three full days for readings.

Fiftieth Day - February 28, 2024: Last day to consider bill on third reading in house of origin. Does not include budget or supplementary appropriation bills.
(Joint Rule 5, paragraph b)

Sixtieth Day - March 9, 2024: Adjournment at Midnight.
(WV Const. Art. VI, §22)

Agencies File Three New Proposed Rules

The Secretary of State's Office shows these new proposed rules have been filed by state agencies:

Title/Series	Agency	Rule Name	Details	Status
13-08	Occupational Therapy	Consideration of Prior Criminal Convictions in Initial Licensure Determinations	Agency Approved: January 10, 2024	In Progress

Link to Rule: https://apps.sos.wv.gov/adlaw/csr/ruleview.aspx?document=18017

13-07	Occupational Therapy	Request for Waiver of Initial Licensing Fees for Certain Individuals	Agency Approved: January 10, 2024	In Progress

Link to Rule: https://apps.sos.wv.gov/adlaw/csr/ruleview.aspx?document=18018

16-09	Physical Therapy	Application for Waiver of Initial Licensing Fees for Certain Individuals	Agency Approved: January 09, 2024	In Progress

Link to Rule: https://apps.sos.wv.gov/adlaw/csr/ruleview.aspx?document=18019

Legislative Update is produced by Jim Wallace of TSG Consulting in cooperation with MAP and Associates.

Jefferson County Commission
FY25 Budget Process Calendar

FY 25 Schedule	Task
Tuesday, January 16, 2024	Budget Director to compile estimate of revenues
Tuesday, January 16, 2024	More accurate property valuations are available. Budget Director to adjust projected revenues
Tuesday, February 6, 2024	Budget Charge from Commissioners
Mid January 2024	Preliminary health insurance renewal rates available
Tuesday, January 16, 2024	Budget reports distributed to departments (per auditor's office should be done no later than the 1st week of February)
Friday, February 9, 2024	Department Heads to return budgets to Budget Director (per regulation must be done by March 2nd)
Friday, February 9, 2024	Elected Officials to return budgets to Budget Director (per regulation must be done by March 2nd)
Friday, February 16, 2024	Budget Binders distributed to Commissioners
Thursday, February 22, 2024	Tuesday evening Budget 101 (7PM)
March 4, March 5, March 6	Need to schedule two to three full days of individual department budget presentations to the Commissioners
Thursday, February 29, 2024	Assessor to certify value or real and personal property (per regulation must be done by March 3rd)
Thursday, March 14, 2024	Schedule community forum for public hearing of budget (per regulation must be done between March 7th and March 28th)
	Final health insurance renewal rates obtained
Thursday, March 21, 2024	Currently, this is an evening regular session. Commissioners adopt budget (per regulation must be done by March 29th) or Special Session on Tuesday, March 26, 2024.
	Budget must be published by March 28th each year in the local paper of record.
	Health insurance renewal rates/options presented to Commissioners
Tuesday, April 16, 2024	Commissioners reconvene and consider any objections, and proceeds with the laying of property tax levy rates – Normally a 9:30 meeting (per regulation must be done by April 16th, the 3rd Tuesday of April)
Friday, April 19, 2024	Budget Director to forward the levy order to the State Auditor's Office (per regulation must be done within 3 days of the 3rd Tuesday in April)

CoxHollidaYoung PLLC

January 4, 2024

Jefferson County Commission
124 East Washington Street
Charles Town, WV 25414

Dear Jefferson County Commission:

Thank you for allowing our Firm to propose on your professional accounting service needs.

SCOPE OF ENGAGEMENT

Based on our understanding of your professional service needs, we are proposing to provide the accounting assistance for Jefferson County Commission.

As needed assist:

- Budget Director with County budget preparation, review and analysis
- With preparing and reviewing reporting requirements due to the State of West Virginia
- Budget Director with financial statement audit coordination and preparation
- With professional guidance related to Generally Accepted Accounting Principles

QUALIFICATIONS AND EXPERIENCE

CoxHollidaYoung PLLC was founded in 1963 and is the largest public accounting firm situated in Eastern West Virginia with an office located in downtown Martinsburg with approximately ten (10) professionals. We offer a unique combination of professional services ranging from assurance services, financial and estate planning, business succession planning, business consulting services, business bookkeeping and accounting services and income tax planning and preparation. We are truly large enough to meet your needs, yet small enough to deliver the responsive service you expect.

ENGAGEMENT TEAM

The selection of the proper engagement team members is critical to the success of the engagements. CHY is staffed with professionals and support staff to provide the necessary services while preserving responsive, personalized involvement with each client. We have assembled a team of qualified individuals for this engagement to include:

Chuck W. Young, CPA,

Chuck is the firm's managing partner. He has worked in public accounting for over twenty years and has extensive experience in performing and supervising numerous governmental audits, Rule 42 exhibits, and other governmental accounting and assurance engagements.

Charli E. Heilmann, CPA

Charli is the firm's audit and assurance income partner. She has over 10 years of experience in public accounting, including extensive governmental and not-for-profit engagements. Charli also has experience with County governments. She has an understanding of the software used by the Country's finance department and understands how the software relates with other departments and their processes.

FEES

Depending on the staff required, fees would be based on a discounted hourly rates between $85 to $200, with a fee ceiling of $15,000. When and if services exceed this threshold, we will meet with the County Clerk and Administrator to determine how to proceed.

We will only perform services that is requested by either the County Clerk or Administrator. To manage the costs, we can provide, upon request, weekly progress on the status of current project and costs incurred. If requested we will provide an itemized billing detailing subject matter, time and cost.

We believe the foregoing meets the requirements of your request for proposal, but if you have any questions, please contact me. We would be pleased to discuss this proposal with you at any time. Thank you again for the opportunity to propose. We hope to be selected to continue to provide accounting services for your organization.

Very truly yours,

CoxHollidaYoung PLLC

Chuck W Young, CPA
Partner

NOTICE
Board of Review and Equalization

The County Commission of Jefferson County will convene as a Board of Review and Equalization in the County Commission Courtroom at the Courthouse of said County, 100 E. Washington Street, Charles Town, WV on Thursday, February 1, 2024, at 1:30 p.m., for the purpose of reviewing and equalizing assessments returned by the Assessor of Jefferson County for the tax year 2024.

If you disagree with your appraisal, you may appeal by filing a written petition for an informal review with your county Assessor within eight (8) business days of receiving your Notice of Increase in Assessment.

Please be advised that questions of property tax class changes, questions of taxability or late filing requesting of farm use valuation shall not be addressed.

The Jefferson County Commission will continue to sit as a Board of Review and Equalization in February, 2024 and hold hearings at the Courthouse of said County, 100 E. Washington Street, Charles Town, WV on the following dates and times:

Thursday	February	1, 2024 1:30 p.m.
Tuesday	February	6, 2024 1:30 p.m.
Thursday	February	8, 2024 1:30 p.m.
Tuesday	February	13, 2024 1:30 p.m.
Friday	February	16, 2024 1:30 p.m.

Persons wishing to appear before the Commission should apply with the Assessor's office by close of business no later than Friday, February 9, 2024 in order to complete the proper forms and to schedule a hearing date prior to the planned final hearing date of Friday, February 16, 2024, or you may file a petition for appeal with the WV Office of Tax Appeals at their address – P.O. Box 2751, Charleston, WV 25330-2751.

Given under my hand this 4th day of January, 2024.

Jacqueline C. Shadle

JACQUELINE C. SHADLE, COUNTY CLERK

PUBLIC INPUT MEETING

MAPPING JEFFERSON COUNTY'S FUTURE

Date: January 23, 2024
Time: 7 pm - 9 pm
Location: Jefferson High School

Join us for a public input meeting and share your insights for the future!

For any questions you can reach us at
complan2045@jeffersoncountywv.org

Quarterly Report

October 1, 2023 – December 31, 2023

1. **Active Projects**
    a. Civil War Battlefield Preservation in Jefferson County – Ongoing
        i. Shepherdstown Battlefield properties acquisition and management – ongoing
            1. James Osbourn Farm easement preparation – on review by JC Planning Office
        ii. Lobby for Antietam National Battlefield boundary expansion to include Shepherdstown Battlefield – ongoing.
        iii. James Osbourn House and barn maintenance
        iv. Potomac River front clean up
    b. Peter Burr Farm building improvements and programing – ongoing
    c. Develop grant application and eligibility requirements for JCHPF, a new grant program
    d. WV GeoExplorer project – sponsor and coordinate - ongoing
    e. Duffields Depot rehabilitation - ongoing
    f. Concept Plan reviews in conjunction with JC Planning Department – ongoing
    g. Cell tower reviews in conjunction with JC Planning Department – ongoing
    h. Continual verification of JCHLC historic sites inventory data – ongoing
    i. Identify all cemeteries in Jefferson County and add to GIS layer- ongoing.
    j. Actively maintain Fairview, Boyd Carter, and Middleway cemeteries - ongoing
    k. Text amendment to Zoning Ordinance to include - Delay of demolition and demolition by neglect Ordinances – ongoing
    l. Rt. 340 mitigation - contractor hired to document *Straithmore*
    m. Articles on historic preservation to appear in the *Observer* and *Spirit* – ongoing.
    n. Work with JC Schools to implement *Teaching with Historic Places* – ongoing
    o. Write a brochure for Morgan's Grove Historic District – text and images at designer.
    p. National Register nomination for *Rees-Daniels, Fairview Farm* – Awaiting WV Archives & History Commission meeting
    q. Jefferson County Landmarks nomination for *Shenandoah Oaks* – ongoing
    r. National Register nomination for the *Woodbryne House* – ongoing
    s. National Register nomination for *Fredrick Rosenberger Farm* – Awaiting WV Archives & History Commission meeting
    t. Studying the viability of history tours of Jefferson County

2. **Projects Completed**
    a. Two sink holes cleaned out by WVDEP on Shepherdstown Battlefield– week of October 9
    b. Annual easement review Shepherdstown Battlefield – October 30
    c. Partnered with Jefferson County Museum on field trip for 7th graders from Charles Town Middle School November 2, 2023
    d. Fairview Cemetery- completed grant funded project - December 13th.
    e. *Jefferson County Courthouse* designated as an NHL - December 13th.
    f. Rt. 340 mitigation - WVSHPO determined *Shady Grove* eligible for NR – December 19th

Submitted by
Martin Burke, Chair

JEFFERSON COUNTY, WV - PRODUCTION

YEAR-TO-DATE BUDGET REPORT

FOR 2024 06

ACCOUNTS FOR: 001 GENERAL FUND

001401 COUNTY COMMISSION

		ORIGINAL APPROP	REVISED BUDGET	YTD EXPENDED	MTD EXPENDED	ENCUMBRANCES	AVAILABLE BUDGET	% USED
001401 410100	OFFICIALS SALARY	227,675.00	227,675.00	84,082.14	15,619.14	0.00	143,592.86	36.9%
001401 410300	EMPLOYEES SALARY AND WAGES	528,613.00	520,763.00	107,767.39	19,551.21	0.00	412,995.61	20.7%
001401 410400	FICA TAX	33,751.00	33,751.00	11,936.24	2,238.74	0.00	21,814.76	35.4%
001401 410401	MEDICARE EXPENSE	7,893.00	7,893.00	2,791.54	523.57	0.00	5,101.46	35.4%
001401 410500	HEALTH INSURANCE	166,437.00	166,437.00	14,696.76	3,394.45	0.00	151,740.24	8.8%
001401 410599	HEALTH INSURANCE-CONTRA	-166,437.00	-166,437.00	-16,600.80	0.00	0.00	-149,836.20	10.0%
001401 410600	RETIREMENT	48,993.00	48,993.00	15,075.46	2,850.09	0.00	33,917.54	30.8%
001401 410801	OVERTIME	2,000.00	2,000.00	38.03	0.00	0.00	1,961.97	1.9%
001401 410802	PART TIME / EXTRA HELP	0.00	0.00	2,943.08	1,332.72	0.00	-2,943.08	100.0%
001401 421100	TELEPHONE	1,350.00	1,350.00	896.21	0.00	0.00	453.79	66.4%
001401 421400	TRAVEL	15,000.00	15,000.00	1,196.81	0.00	0.00	13,803.19	8.0%
001401 421800	POSTAGE	250.00	250.00	89.47	0.00	0.00	160.53	35.8%
001401 422000	ADVERTISING / LEGAL PUBS	6,000.00	6,000.00	1,195.02	0.00	0.00	4,804.98	19.9%
001401 422100	TRAINING AND EDUCATION	7,500.00	7,500.00	1,000.00	0.00	0.00	6,500.00	13.3%
001401 422200	DUES AND SUBSCRIPTIONS	13,015.00	13,015.00	10,995.00	0.00	0.00	2,020.00	84.5%
001401 422300	PROFESSIONAL SERVICES	70,350.00	70,350.00	33,050.60	2,923.65	0.00	37,299.40	47.0%
001401 422301	HRA-HEALTH REIMBURSEMENT ACCT	210,000.00	210,000.00	60,161.61	6,630.77	0.00	149,838.39	28.6%
001401 422320	EMPLOYEE ASSISTANCE PGM	5,040.00	5,040.00	936.00	0.00	0.00	4,104.00	18.6%
001401 422400	AUDIT COSTS	35,100.00	35,100.00	0.00	0.00	0.00	35,100.00	.0%
001401 422600	INSURANCE AND BONDS	329,000.00	329,000.00	360,385.50	0.00	0.00	-31,385.50	109.5%

YEAR-TO-DATE BUDGET REPORT

FOR 2024 06

ACCOUNTS FOR: 001 GENERAL FUND		ORIGINAL APPROP	REVISED BUDGET	YTD EXPENDED	MTD EXPENDED	ENCUMBRANCES	AVAILABLE BUDGET	% USED
001401 422601	WORKERS COMP INSURANCE	130,000.00	130,000.00	120,541.50	40,180.50	0.00	9,458.50	92.7%
001401 422602	UNEMPLOYMENT INSURANCE	20,000.00	20,000.00	862.44	0.00	0.00	19,137.56	4.3%
001401 422900	COURT COSTS AND DAMAGES	0.00	0.00	17,937.75	17,937.75	0.00	-17,937.75	100.0%
001401 423000	CONTRACTED SERVICES	3,200.00	3,200.00	5,192.98	0.00	0.00	-1,992.98	162.3%
001401 423900	INSURANCE PREMIUM RETIREE	90,000.00	90,000.00	46,008.00	7,668.00	0.00	43,992.00	51.1%
001401 434100	MATERIALS AND SUPPLIES	2,700.00	2,700.00	8,636.94	0.00	0.00	-5,936.94	319.9%
001401 435300	COMPUTER SOFTWARE	1,000.00	1,000.00	34.18	0.00	0.00	965.82	3.4%
001401 435600	LICENSE AND ANNUAL FEES	0.00	0.00	149.00	0.00	0.00	-149.00	100.0%
001401 456700	CONTR/TRSFR OTHR GOV UNIT	4,800.00	4,800.00	4,800.00	0.00	0.00	0.00	100.0%
001401 456708	IN-KIND RENT-FARMLAND PROT BD	14,231.00	14,231.00	0.00	0.00	0.00	14,231.00	.0%
001401 456800	CONTRIBUTION/ TRANSFER OTHER	1,000.00	1,000.00	0.00	0.00	0.00	1,000.00	.0%
001401 456800 G2011	CONTRIBUTION/ TRANSFER OTHER	0.00	0.00	77,500.00	0.00	0.00	-77,500.00	100.0%
TOTAL COUNTY COMMISSION		1,808,461.00	1,800,611.00	974,298.85	120,850.59	0.00	826,312.15	54.1%
TOTAL GENERAL FUND		1,808,461.00	1,800,611.00	974,298.85	120,850.59	0.00	826,312.15	54.1%
TOTAL EXPENSES		1,808,461.00	1,800,611.00	974,298.85	120,850.59	0.00	826,312.15	

YEAR-TO-DATE BUDGET REPORT

FOR 2024 06

ORIGINAL APPROP	REVISED BUDGET	YTD EXPENDED	MTD EXPENDED	ENCUMBRANCES	AVAILABLE BUDGET	% USED
GRAND TOTAL						
1,808,461.00	1,800,611.00	974,298.85	120,850.59	0.00	826,312.15	54.1%

** END OF REPORT - Generated by Tina Branson **

JEFFERSON COUNTY, WV - PRODUCTION

YEAR-TO-DATE BUDGET REPORT

FOR 2024 06

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ACCOUNTS FOR: 001 GENERAL FUND

	ORIGINAL APPROP	REVISED BUDGET	YTD EXPENDED	MTD EXPENDED	ENCUMBRANCES	AVAILABLE BUDGET	% USED
001401 COUNTY COMMISSION							
001401 410100 OFFICIALS SALARY	227,675.00	227,675.00	84,082.14	15,619.14	0.00	143,592.86	36.9%
2024/01/000094 07/21/2023 PRJ			6,846.30 REF 2402PD		WARRANT=2402PR RUN=1 BI-WEEKL		
2024/02/000005 08/04/2023 PRJ			6,846.30 REF 2403PR		WARRANT=2403PR RUN=1 BI-WEEKL		
2024/02/000127 08/18/2023 PRJ			6,846.30 REF 2404PR		WARRANT=2404PR RUN=1 BI-WEEKL		
2024/03/000005 09/01/2023 PRJ			6,846.30 REF 2405PR		WARRANT=2405PR RUN=1 BI-WEEKL		
2024/03/000071 09/15/2023 PRJ			6,846.30 REF 2406PR		WARRANT=2406PR RUN=1 BI-WEEKL		
2024/03/000181 09/29/2023 PRJ			6,846.30 REF 2407PR		WARRANT=2407PR RUN=1 BI-WEEKL		
2024/04/000057 10/13/2023 PRJ			6,846.30 REF 2408PR		WARRANT=2408PR RUN=1 BI-WEEKL		
2024/04/000111 10/27/2023 PRJ			6,846.30 REF 2409PR		WARRANT=2409PR RUN=1 BI-WEEKL		
2024/05/000027 11/09/2023 PRJ			6,846.30 REF 2410PR		WARRANT=2410PR RUN=1 BI-WEEKL		
2024/05/000092 11/24/2023 PRJ			6,846.30 REF 2411PR		WARRANT=2411PR RUN=1 BI-WEEKL		
2024/06/000009 12/08/2023 PRJ			6,846.30 REF 2412PR		WARRANT=2412PR RUN=1 BI-WEEKL		
2024/06/000062 12/22/2023 PRJ			8,772.84 REF 2413PR		WARRANT=2413PR RUN=1 BI-WEEKL		
001401 410300 EMPLOYEES SALARY AND WAGES	528,613.00	520,763.00	107,767.39	19,551.21	0.00	412,995.61	20.7%
2024/01/000094 07/21/2023 PRJ			17,051.76 REF 2402PD		WARRANT=2402PR RUN=1 BI-WEEKL		
2024/01/000206 07/01/2023 BUA			-7,850.00 REF GENERA		EMPLOYEE RECOGNITION PROGRAM		
2024/02/000005 08/04/2023 PRJ			17,159.97 REF 2403PR		WARRANT=2403PR RUN=1 BI-WEEKL		
2024/02/000127 08/18/2023 PRJ			17,965.93 REF 2404PR		WARRANT=2404PR RUN=1 BI-WEEKL		
2024/02/000316 08/31/2023 GEN			407.85 REF REZMER		C.REZMER WRG GL 2404PR		
2024/03/000005 09/01/2023 PRJ			16,116.35 REF 2405PR		WARRANT=2405PR RUN=1 BI-WEEKL		
2024/03/000071 09/15/2023 PRJ			17,279.06 REF 2406PR		WARRANT=2406PR RUN=1 BI-WEEKL		
2024/03/000181 09/29/2023 PRJ			18,403.76 REF 2407PR		WARRANT=2407PR RUN=1 BI-WEEKL		
2024/04/000057 10/13/2023 PRJ			14,217.89 REF 2408PR		WARRANT=2408PR RUN=1 BI-WEEKL		
2024/04/000111 10/27/2023 PRJ			14,217.91 REF 2409PR		WARRANT=2409PR RUN=1 BI-WEEKL		
2024/04/000148 10/31/2023 GEN			-70,097.06 REF SALARY		FRMLND REIMB SALARY WHEELER		
2024/05/000027 11/09/2023 PRJ			16,661.16 REF 2410PR		WARRANT=2410PR RUN=1 BI-WEEKL		
2024/05/000056 11/09/2023 GEN			-944.00 REF MK GL#		WRONG GL FOR PT		
2024/05/000092 11/24/2023 PRJ			9,775.60 REF 2411PR		WARRANT=2411PR RUN=1 BI-WEEKL		
2024/06/000009 12/08/2023 PRJ			9,775.61 REF 2412PR		WARRANT=2412PR RUN=1 BI-WEEKL		
2024/06/000062 12/22/2023 PRJ			9,775.60 REF 2413PR		WARRANT=2413PR RUN=1 BI-WEEKL		
001401 410400 FICA TAX	33,751.00	33,751.00	11,936.24	2,238.74	0.00	21,814.76	35.4%
2024/01/000094 07/21/2023 PRJ			1,454.14 REF 2402PD		WARRANT=2402PR RUN=1 BI-WEEKL		
2024/02/000005 08/04/2023 PRJ			1,460.89 REF 2403PR		WARRANT=2403PR RUN=1 BI-WEEKL		
2024/02/000127 08/18/2023 PRJ			1,536.15 REF 2404PR		WARRANT=2404PR RUN=1 BI-WEEKL		
2024/03/000005 09/01/2023 PRJ			1,396.16 REF 2405PR		WARRANT=2405PR RUN=1 BI-WEEKL		
2024/03/000071 09/15/2023 PRJ			1,468.28 REF 2406PR		WARRANT=2406PR RUN=1 BI-WEEKL		
2024/03/000181 09/29/2023 PRJ			1,565.49 REF 2407PR		WARRANT=2407PR RUN=1 BI-WEEKL		

YEAR-TO-DATE BUDGET REPORT

FOR 2024 06

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ACCOUNTS FOR: 001 GENERAL FUND								
	ORIGINAL APPROP	REVISED BUDGET	YTD EXPENDED	MTD EXPENDED	ENCUMBRANCES	AVAILABLE BUDGET	% USED	
		FICA TAX						
2024/04/000057	10/13/2023 PRJ		1,290.66	REF 2408PR				WARRANT=2408PR RUN=1 BI-WEEKL
2024/04/000111	10/27/2023 PRJ		1,293.04	REF 2409PR				WARRANT=2409PR RUN=1 BI-WEEKL
2024/04/000148	10/31/2023 GEN		-4,272.16	REF SALARY				FRMLND REIMB SALARY WHEELER
2024/05/000027	11/09/2023 PRJ		1,445.23	REF 2410PR				WARRANT=2410PR RUN=1 BI-WEEKL
2024/05/000092	11/24/2023 PRJ		1,059.62	REF 2411PR				WARRANT=2411PR RUN=1 BI-WEEKL
2024/06/000009	12/08/2023 PRJ		1,100.96	REF 2412PR				WARRANT=2412PR RUN=1 BI-WEEKL
2024/06/000062	12/22/2023 PRJ		1,137.78	REF 2413PR				WARRANT=2413PR RUN=1 BI-WEEKL
001401 410401		MEDICARE EXPENSE						
	7,893.00	7,893.00	2,791.54	523.57	0.00	5,101.46	35.4%	
2024/01/000094	07/21/2023 PRJ		340.08	REF 2402PD				WARRANT=2402PR RUN=1 BI-WEEKL
2024/02/000005	08/04/2023 PRJ		341.65	REF 2403PR				WARRANT=2403PR RUN=1 BI-WEEKL
2024/02/000127	08/18/2023 PRJ		359.27	REF 2404PR				WARRANT=2404PR RUN=1 BI-WEEKL
2024/03/000005	09/01/2023 PRJ		326.53	REF 2405PR				WARRANT=2405PR RUN=1 BI-WEEKL
2024/03/000071	09/15/2023 PRJ		343.37	REF 2406PR				WARRANT=2406PR RUN=1 BI-WEEKL
2024/03/000181	09/29/2023 PRJ		366.14	REF 2407PR				WARRANT=2407PR RUN=1 BI-WEEKL
2024/04/000057	10/13/2023 PRJ		301.85	REF 2408PR				WARRANT=2408PR RUN=1 BI-WEEKL
2024/04/000111	10/27/2023 PRJ		302.41	REF 2409PR				WARRANT=2409PR RUN=1 BI-WEEKL
2024/04/000148	10/31/2023 GEN		-999.13	REF SALARY				FRMLND REIMB SALARY WHEELER
2024/05/000027	11/09/2023 PRJ		338.00	REF 2410PR				WARRANT=2410PR RUN=1 BI-WEEKL
2024/05/000092	11/24/2023 PRJ		247.80	REF 2411PR				WARRANT=2411PR RUN=1 BI-WEEKL
2024/06/000009	12/08/2023 PRJ		257.47	REF 2412PR				WARRANT=2412PR RUN=1 BI-WEEKL
2024/06/000062	12/22/2023 PRJ		266.10	REF 2413PR				WARRANT=2413PR RUN=1 BI-WEEKL
001401 410500		HEALTH INSURANCE						
	166,437.00	166,437.00	14,696.76	3,394.45	0.00	151,740.24	8.8%	
2024/01/000094	07/21/2023 PRJ		2,801.70	REF 2402PD				WARRANT=2402PR RUN=1 BI-WEEKL
2024/01/000204	07/31/2023 GEN		-3.36	REF JULINS				JULY ROUNDING VISION/DENTAL
2024/01/000204	07/31/2023 GEN		-1.41	REF JULINS				JULY ROUNDING HEALTH
2024/01/000204	07/31/2023 GEN		51.58	REF JULINS				DNTAL SHRT ROSE CARROL.MICHAEL
2024/01/000204	07/31/2023 GEN		9.41	REF JULINS				VISION SHRT K.ROSE A.CARROLL
2024/01/000204	07/31/2023 GEN		1,399.48	REF JULINS				HEALTH SHRT K.ROSE A.CARROLL
2024/02/000005	08/04/2023 PRJ		2,918.35	REF 2403PR				WARRANT=2403PR RUN=1 BI-WEEKL
2024/02/000127	08/18/2023 PRJ		2,797.70	REF 2404PR				WARRANT=2404PR RUN=1 BI-WEEKL
2024/02/000309	08/30/2023 GEN		-0.44	REF augins				aug round dental
2024/02/000309	08/30/2023 GEN		-2.96	REF augins				aug round vision
2024/02/000309	08/30/2023 GEN		-1.42	REF augins				aug round medical
2024/03/000005	09/01/2023 PRJ		2,918.35	REF 2405PR				WARRANT=2405PR RUN=1 BI-WEEKL
2024/03/000071	09/15/2023 PRJ		2,797.70	REF 2406PR				WARRANT=2406PR RUN=1 BI-WEEKL
2024/03/000230	09/29/2023 GEN		-899.65	REF SEPTIN				A.CARROLL INS BCBS REFUNDED
2024/03/000230	09/29/2023 GEN		-50.00	REF SEPTIN				ERROR IN JULY JE 204 $50
2024/03/000230	09/29/2023 GEN		-36.44	REF SEPTIN				A.CARROLL INS BCBS REFUNDED
2024/03/000248	09/30/2023 GEN		-3.54	REF SEPINS				VISION/DENTAL ROUND SEPT 2023
2024/03/000248	09/30/2023 GEN		-1.42	REF SEPINS				MEDICAL ROUNO SEPT 2023

YEAR-TO-DATE BUDGET REPORT

FOR 2024 06 JOURNAL DETAIL 2024 1 TO 2024 6

ACCOUNTS FOR: 001 GENERAL FUND								
	ORIGINAL APPROP	REVISED BUDGET	YTD EXPENDED	MTD EXPENDED	ENCUMBRANCES	AVAILABLE BUDGET	% USED	
		HEALTH INSURANCE						
2024/03/000248	09/30/2023 GEN	-174.20	REF SEPINS			DENTAL EMPLYR OVERAGE JULY 23		
2024/03/000248	09/30/2023 GEN	-836.46	REF SEPINS			MEDICAL EMPLYR OVERAGE JULY 23		
2024/04/000057	10/13/2023 PRJ	2,172.44	REF 2408PR			WARRANT=2408PR RUN=1 BI-WEEKL		
2024/04/000111	10/27/2023 PRJ	2,064.49	REF 2409PR			WARRANT=2409PR RUN=1 BI-WEEKL		
2024/04/000141	10/31/2023 GEN	-3.44	REF OCTRND			VISION/DENTAL ROUNDING OCT 23		
2024/04/000141	10/31/2023 GEN	-1.48	REF OCTRND			MEDICAL ROUNDING OCT 23		
2024/04/000148	10/31/2023 GEN	-10,026.09	REF SALARY			FRMLND REIMB SALARY WHEELER		
2024/05/000027	11/09/2023 PRJ	1,744.85	REF 2410PR			WARRANT=2410PR RUN=1 BI-WEEKL		
2024/05/000092	11/24/2023 PRJ	1,649.60	REF 2411PR			WARRANT=2411PR RUN=1 BI-WEEKL		
2024/05/000129	11/30/2023 GEN	-3.50	REF NOVRND			DENTAL/VISION ROUNDING NOV 23		
2024/05/000129	11/30/2023 GEN	-1.45	REF NOVRND			MEDICAL ROUNDING NOV 23		
2024/05/000129	11/30/2023 GEN	11.22	REF NOVRND			JADE WARNER TERM 1/2 PREMIUM		
2024/05/000129	11/30/2023 GEN	12.70	REF NOVRND			RON GARZA GL DONE WRONG WAY		
2024/06/000009	12/08/2023 PRJ	1,744.85	REF 2412PR			WARRANT=2412PR RUN=1 BI-WEEKL		
2024/06/000062	12/22/2023 PRJ	1,649.60	REF 2413PR			WARRANT=2413PR RUN=1 BI-WEEKL		
001401 410599		HEALTH INSURANCE-CONTRA						
	-166,437.00	-166,437.00	-16,600.80	0.00	0.00	-149,836.20	10.0%	
2024/01/000207	07/31/2023 GEN	-7,175.23	REF HEALTH			401 RECLASS HEALTH INS EXP		
2024/02/000310	08/30/2023 GEN	-5,711.23	REF HEALTH			401 RECLASS HEALTH INS EXP		
2024/03/000265	09/30/2023 GEN	-3,714.34	REF HEALTH			401 RECLASS HEALTH INS EXP		
001401 410600		RETIREMENT						
	48,993.00	48,993.00	15,075.46	2,850.09	0.00	33,917.54	30.8%	
2024/01/000094	07/21/2023 PRJ	1,993.22	REF 2402PD			WARRANT=2402PR RUN=1 BI-WEEKL		
2024/02/000005	08/04/2023 PRJ	2,002.96	REF 2403PR			WARRANT=2403PR RUN=1 BI-WEEKL		
2024/02/000127	08/18/2023 PRJ	2,112.20	REF 2404PR			WARRANT=2404PR RUN=1 BI-WEEKL		
2024/03/000005	09/01/2023 PRJ	1,909.03	REF 2405PR			WARRANT=2405PR RUN=1 BI-WEEKL		
2024/03/000071	09/15/2023 PRJ	2,013.67	REF 2406PR			WARRANT=2406PR RUN=1 BI-WEEKL		
2024/03/000181	09/29/2023 PRJ	1,946.79	REF 2407PR			WARRANT=2407PR RUN=1 BI-WEEKL		
2024/04/000057	10/13/2023 PRJ	1,738.16	REF 2408PR			WARRANT=2408PR RUN=1 BI-WEEKL		
2024/04/000111	10/27/2023 PRJ	1,741.58	REF 2409PR			WARRANT=2409PR RUN=1 BI-WEEKL		
2024/04/000148	10/31/2023 GEN	-6,308.75	REF SALARY			FRMLND REIMB SALARY WHEELER		
2024/05/000027	11/09/2023 PRJ	1,738.16	REF 2410PR			WARRANT=2410PR RUN=1 BI-WEEKL		
2024/05/000092	11/24/2023 PRJ	1,338.35	REF 2411PR			WARRANT=2411PR RUN=1 BI-WEEKL		
2024/06/000009	12/08/2023 PRJ	1,338.35	REF 2412PR			WARRANT=2412PR RUN=1 BI-WEEKL		
2024/06/000062	12/22/2023 PRJ	1,511.74	REF 2413PR			WARRANT=2413PR RUN=1 BI-WEEKL		
001401 410801		OVERTIME						
	2,000.00	2,000.00	38.03	0.00	0.00	1,961.97	1.9%	
2024/04/000111	10/27/2023 PRJ	38.03	REF 2409PR			WARRANT=2409PR RUN=1 BI-WEEKL		

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001401 410802	PART TIME / EXTRA HELP									
	0.00	0.00	2,943.08	1,332.72	0.00	-2,943.08	100.0%			
2024/02/000127	08/18/2023	PRJ	407.85	REF	2404PR			WARRANT=2404PR	RUN=1 BI-WEEKL	
2024/02/000316	08/31/2023	GEN	-407.85	REF	REZMER			C.REZMER WRG GL	2404PR	
2024/05/000056	11/09/2023	GEN	944.00	REF	MK GL#			WRONG GL FOR PT		
2024/05/000092	11/24/2023	PRJ	666.36	REF	2411PR			WARRANT=2411PR	RUN=1 BI-WEEKL	
2024/06/000009	12/08/2023	PRJ	1,332.72	REF	2412PR			WARRANT=2412PR	RUN=1 BI-WEEKL	
001401 421100	TELEPHONE									
	1,350.00	1,350.00	896.21	0.00	0.00	453.79	66.4%			
2024/02/000358	08/31/2023	API	283.78	VND	010073	IN	2024109	AT&T	AT&T PAYMENT	
2024/03/000363	09/30/2023	API	283.78	VND	010073	IN	2024258	AT&T	AT&T PAYMENT	
2024/03/000363	09/30/2023	API	328.65	VND	010073	IN	2024259	AT&T	AT&T PAYMENT	
001401 421400	TRAVEL									
	15,000.00	15,000.00	1,196.81	0.00	0.00	13,803.19	8.0%			
2024/02/000351	08/31/2023	API	116.00	VND	016012	IN	2023861	GLADE SPRINGS RESORT	WV STATE AUDIT	
2024/02/000351	08/31/2023	API	232.00	VND	016012	IN	2023862	GLADE SPRINGS RESORT	WV STATE AUDIT	
2024/02/000351	08/31/2023	API	116.00	VND	016012	IN	2023863	GLADE SPRINGS RESORT	WV STATE AUDIT	
2024/02/000351	08/31/2023	API	116.00	VND	016012	IN	2023864	GLADE SPRINGS RESORT	WV STATE AUDIT	
2024/02/000351	08/31/2023	API	10.87	VND	999998	IN	2023844	PCARD ONE TIME PAY	JIMMY JOHNS 12	
2024/02/000358	08/31/2023	API	188.70	VND	037056	IN	2024105	ENTERPRISE RENTACAR	ENTERPRISE REN	
2024/05/000038	11/03/2023	API	132.31	VND	019002	IN	TJ/1123	TRICIA JACKSON	MILEAGE REIMBU	88809
2024/05/000098	11/16/2023	API	284.93	VND	019002	IN	TJ111623	TRICIA JACKSON	WORKFORCE DEVE	88868
001401 421800	POSTAGE									
	250.00	250.00	89.47	0.00	0.00	160.53	35.8%			
2024/02/000263	08/28/2023	API	34.71	VND	015002	IN	8-209-12328	FEDEX	FEDEX SERVICE	88445
2024/02/000263	08/28/2023	API	54.76	VND	015002	IN	8-216-34521	FEDEX	FEDEX SERVICE	88445
001401 422000	ADVERTISING / LEGAL PUBS									
	6,000.00	6,000.00	1,195.02	0.00	0.00	4,804.98	19.9%			
2024/01/000248	07/31/2023	API	61.62	VND	019012	IN	63198/63199	SPIRIT OF JEFFERSON	LEGAL CLASSIFI	
2024/02/000196	08/15/2023	API	22.22	VND	019012	IN	63663	SPIRIT OF JEFFERSON	LEGAL CLASSIFI	88427
2024/02/000263	08/22/2023	API	61.62	VND	019012	IN	63746	SPIRIT OF JEFFERSON	LEGAL ADD	88461
2024/02/000263	08/22/2023	API	22.22	VND	019012	IN	63848	SPIRIT OF JEFFERSON	LEGAL CLASSIFI	88461
2024/03/000253	09/27/2023	API	48.90	VND	019012	IN	64178	SPIRIT OF JEFFERSON	LEGAL ADD	88645
2024/04/000058	10/04/2023	API	43.58	VND	019012	IN	64254	SPIRIT OF JEFFERSON	LEGAL AD	88677
2024/04/000149	10/30/2023	API	934.86	VND	019012	IN	64568	SPIRIT OF JEFFERSON	FINANCIAL STAT	88783

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	ORIGINAL APPROP	REVISED BUDGET	YTD EXPENDED	MTD EXPENDED	ENCUMBRANCES	AVAILABLE BUDGET	% USED
001401 422100	TRAINING AND EDUCATION						
	7,500.00	7,500.00	1,000.00	0.00	0.00	6,500.00	13.3%
2024/01/000243	07/31/2023 API	250.00	VND 012029 IN 2023472		CCAWV CO COMM ASSOC	CCAWV TRAINING	
2024/01/000243	07/31/2023 API	250.00	VND 012029 IN 2023473		CCAWV CO COMM ASSOC	CCAWV TRAINING	
2024/01/000243	07/31/2023 API	250.00	VND 012029 IN 2023474		CCAWV CO COMM ASSOC	CCAWV TRAINING	
2024/01/000243	07/31/2023 API	250.00	VND 012029 IN 2023475		CCAWV CO COMM ASSOC	CCAWV TRAINING	
001401 422200	DUES AND SUBSCRIPTIONS						
	13,015.00	13,015.00	10,995.00	0.00	0.00	2,020.00	84.5%
2024/01/000212	07/01/2023 GRV	6,500.00	REF FY23PP		REV FY23 PREPAIDS		
2024/02/000196	08/15/2023 API	595.00	VND 037489 IN 300220816		GFOA GOVERNMENT FINA	M. ZONGELLI AN	88416
2024/05/000134	11/30/2023 API	3,900.00	VND 012029 IN 6003		CCAWV CO COMM ASSOC	CCAWV ASSOC ME	88898
001401 422300	PROFESSIONAL SERVICES						
	70,350.00	70,350.00	33,050.60	2,923.65	0.00	37,299.40	47.0%
2024/01/000003	07/01/2023 API	900.00	VND 022192 IN JCC072023		MILLENIUM INS GROUP	HRA ADMINISTRA	88143
2024/01/000054	07/06/2023 API	250.00	VND 022192 IN WRAP72023		MILLENIUM INS GROUP	WRAP DOCUENT F	88240
2024/01/000054	07/05/2023 API	8,145.20	VND 027112 IN JULY 2022		WILLIAM F. ROHRBAUGH	JULY 2022 LEGA	88249
2024/01/000054	07/05/2023 API	1,091.20	VND 027112 IN AUG 2022		WILLIAM F. ROHRBAUGH	AUG 2022 LEGAL	88249
2024/01/000054	07/05/2023 API	2,507.30	VND 027112 IN SEPT 2022		WILLIAM F. ROHRBAUGH	SEPT 2022 LEGA	88249
2024/01/000054	07/05/2023 API	3,636.20	VND 027112 IN OCT 2022		WILLIAM F. ROHRBAUGH	OCT 2022 LEGAL	88249
2024/01/000054	07/05/2023 API	7,018.30	VND 027112 IN NOV 2022		WILLIAM F. ROHRBAUGH	NOV 2022 LEGAL	88249
2024/01/000054	07/05/2023 API	4,835.20	VND 027112 IN DEC 2022		WILLIAM F. ROHRBAUGH	DEC 2022 LEGAL	88249
2024/01/000054	07/05/2023 API	443.20	VND 027112 IN JAN 2023		WILLIAM F. ROHRBAUGH	JAN 2023 LEGAL	88249
2024/01/000054	07/05/2023 API	4,411.70	VND 027112 IN FEB 2023		WILLIAM F. ROHRBAUGH	FEB 2023 LEGAL	88249
2024/01/000054	07/05/2023 API	2,279.20	VND 027112 IN MAR 2023		WILLIAM F. ROHRBAUGH	MARCH 2023 LEG	88249
2024/01/000054	07/05/2023 API	121.20	VND 027112 IN APRIL 2023		WILLIAM F. ROHRBAUGH	APRIL 2023 LEG	88249
2024/01/000054	07/05/2023 API	282.30	VND 027112 IN MAY 2023		WILLIAM F. ROHRBAUGH	MAY 2023 LEGAL	88249
2024/01/000054	07/05/2023 API	1,207.60	VND 027112 IN JUNE 2023		WILLIAM F. ROHRBAUGH	JUNE 2023 LEGA	88249
2024/01/000188	07/26/2023 API	810.00	VND 017085 IN 31777		COX HOLLIDA YOUNG PL	CPA SVS	88324
2024/01/000195	07/31/2023 GEN	-7,176.00	REF CRT		CASH RCT 63541 CHGRD	WRG ACCT	
2024/01/000201	07/31/2023 API	126.65	VND 010172 IN CBR7/23		AMERIFLEX	ADMINISTRATIVE	88362
2024/01/000205	07/31/2023 API	195.00	VND 010172 IN CBRREN7/23		AMERIFLEX	ANNUAL COBRA R	88407
2024/01/000261	07/01/2023 GEN	-35,978.60	REF CRT AP		FY 23 INVOICES	ROHBRAUGH	
2024/02/000003	08/01/2023 API	900.00	VND 022192 IN JCC82023		MILLENIUM INS GROUP	HRA ADMINISTRA	88303
2024/02/000135	08/04/2023 API	53.42	VND 019012 IN 63485		SPIRIT OF JEFFERSON	LEGAL CLASSIFI	88392
2024/02/000196	08/17/2023 API	126.65	VND 010172 IN CBR8/23		AMERIFLEX	ADMINISTRATIVE	88407
2024/02/000263	08/23/2023 API	8,325.00	VND 029123 IN 045-430810		TYLER TECHNOLOGIES	TYLER TRAINING	88466
2024/03/000003	09/01/2023 API	900.00	VND 022192 IN JCC92023		MILLENIUM INS GROUP	HRA ADMINISTRA	88422
2024/03/000036	09/01/2023 API	1,422.00	VND 022099 IN 2210		MAZZITTI & SULL EAP	QUARTERLY EAP	88495
2024/03/000036	09/05/2023 API	5,737.28	VND 025104 IN 1403		PROGRESSIVE PRINTING	AMBO FEE MAILI	88497
2024/03/000082	09/08/2023 API	126.65	VND 010172 IN CBR9/23		AMERIFLEX	ADMINISTRATION	88505
2024/03/000142	09/19/2023 API	2,732.00	VND 011093 IN 975072		BEST BEST & KRIEGER	CABLE FRANCISE	88546
2024/03/000142	09/13/2023 API	2,076.00	VND 017085 IN 31945		COX HOLLIDA YOUNG PL	ACCOUNTING SER	88547
2024/03/000142	09/13/2023 API	42.70	VND 017126 IN G3752816		HIRERIGHT	BACKGROUND SER	88553
2024/04/000006	10/01/2023 API	900.00	VND 022192 IN JCC102023		MILLENIUM INS GROUP	HRA ADMINISTRA	88523

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PROFESSIONAL SERVICES

2024/04/000085	10/10/2023	API	126.65	VND	010172	IN CBR10/23	AMERIFLEX	ADMINISTRATION	88690
2024/04/000117	10/18/2023	API	942.50	VND	017085	IN 32052	COX HOLLIDA YOUNG PL	PROF ACCOUNTIN	88718
2024/04/000117	10/18/2023	API	3,500.00	VND	017085	IN 32053	COX HOLLIDA YOUNG PL	PROF SERVICES	88718
2024/05/000003	11/01/2023	API	900.00	VND	022192	IN JCC112023	MILLENIUM INS GROUP	HRA ADMINISTRA	88737
2024/05/000069	11/08/2023	API	126.65	VND	010172	IN CBR11/23	AMERIFLEX	ADMINISTRATION	88819
2024/05/000069	11/08/2023	API	4,292.00	VND	017085	IN 32189	COX HOLLIDA YOUNG PL	CPA SVCS - OCT	88821
2024/05/000098	11/16/2023	API	1,791.80	VND	032054	IN 3211	WENDI L. WATSON	JCV-PCPC CC-19	88870
2024/06/000003	12/01/2023	API	900.00	VND	022192	IN JCC122023	MILLENIUM INS GROUP	HRA ADMINISTRA	88828
2024/06/000015	12/04/2023	API	1,422.00	VND	022099	IN 2522	MAZZITTI & SULL EAP	QUARTERLY INVO	88912
2024/06/000037	12/11/2023	API	126.65	VND	010172	IN CBR12/23	AMERIFLEX	ADMINISTRATION	88941
2024/06/000094	12/20/2023	API	475.00	VND	017085	IN 32272	COX HOLLIDA YOUNG PL	ACCOUNTING SVS	88999

001401 422301 HRA-HEALTH REIMBURSEMENT ACCT

210,000.00	210,000.00	60,161.61	6,630.77	0.00	149,838.39	28.6%

2024/02/000263	08/24/2023	API	3,250.00	VND	015033	IN HRA202384	RONALD FLETCHER	HRA EMPLOYEE D	88458
2024/02/000263	08/24/2023	API	305.82	VND	022137	IN HRA2023085	MICHAEL MONAGHAN	HRA EMPLOYEE D	88454
2024/02/000263	08/24/2023	API	202.34	VND	032198	IN HRA2023086	ADAM WARD	HRA EMPLOYEE D	88431
2024/03/000082	09/08/2023	API	5,250.00	VND	022137	IN HRA2024002	MICHAEL MONAGHAN	Employee HRA D	88522
2024/03/000082	09/08/2023	API	2,688.09	VND	034011	IN HRA2024001	NEIL ZAHRADNIK	Employee HRA D	88525
2024/03/000206	09/22/2023	API	5,250.00	VND	017151	IN HRA2024003	MATTHEW HARVEY	EMPLOYEE HRA D	88599
2024/04/000085	10/10/2023	API	1,511.62	VND	011236	IN HRA2024006	SHANNON BURLETT	EMPLOYEE HRA D	88703
2024/04/000085	10/10/2023	API	1,952.70	VND	013132	IN HRA2024005	CYNTHIA DANNER	EMPLOYEE HRA D	88693
2024/04/000085	10/10/2023	API	5,250.00	VND	013149	IN HRA2024004	DUANE DUNN	EMPLOYEE HRA D	88694
2024/04/000085	10/10/2023	API	2,275.27	VND	020049	IN HRA2024007	KATHRYN KING	EMPLOYEE HRA D	88699
2024/04/000085	10/10/2023	API	2,674.44	VND	037724	IN HRA2024008	AUTUMN ULSH	EMPLOYEE HRA D	88691
2024/04/000149	10/25/2023	API	1,199.00	VND	011211	IN HRA2024009	LORI BROWN	EMPLOYEE HRA D	88774
2024/04/000149	10/25/2023	API	2,829.24	VND	012289	IN HRA2024011	SAMANTHA COMBS	EMPLOYEE HRA D	88782
2024/04/000149	10/25/2023	API	275.51	VND	022159	IN HRA2024012	JASON MICKEY	EMPLOYEE HRA D	88772
2024/04/000149	10/25/2023	API	683.07	VND	023009	IN HRA2024010	MORGAN NICK	EMPLOYEE HRA D	88775
2024/04/000149	10/25/2023	API	5,250.00	VND	028254	IN HRA2024013	WENDY SCHUTZ	EMPLOYEE HRA D	88786
2024/04/000149	10/25/2023	API	604.95	VND	028296	IN HRA2014014	EVELYN STEPHENSON	EMPLOYEE HRA D	88768
2024/05/000096	11/08/2023	API	77.03	VND	012289	IN HRA2024015	SAMANTHA COMBS	EMPLOYEE HRA D	88864
2024/05/000096	11/08/2023	API	322.89	VND	022215	IN HRA2024016	MICHELLE EVERS	EMPLOYEE HRA D	88860
2024/05/000098	11/08/2023	API	2,575.56	VND	037724	IN HRA2024017	AUTUMN ULSH	EMPLOYEE HRA D	88840
2024/05/000119	11/27/2023	API	45.96	VND	017157	IN HRA2024020	MARION A. HAZEL	EMPLOYEE HRA D	88882
2024/05/000119	11/27/2023	API	3,141.51	VND	022215	IN HRA2024019	MICHELLE EVERS	EMPLOYEE HRA D	88883
2024/05/000119	11/27/2023	API	3,572.11	VND	023009	IN HRA2024018	MORGAN NICK	EMPLOYEE HRA D	88884
2024/05/000134	11/27/2023	API	2,343.73	VND	012289	IN HRA2024021	SAMANTHA COMBS	EMPLOYEE HRA D	88921
2024/06/000068	12/11/2023	API	4,634.86	VND	022217	IN HRA2024023	MONICA ANDERSON	EMPLOYEE HRA D	88976
2024/06/000068	12/11/2023	API	1,995.91	VND	028327	IN HRA2024022	LUKE SEIGFRIED	EMPLOYEE HRA D	88975

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	ORIGINAL APPROP	REVISED BUDGET	YTD EXPENDED	MTD EXPENDED	ENCUMBRANCES	AVAILABLE BUDGET	% USED		
001401 422320	EMPLOYEE ASSISTANCE PGM								
	5,040.00	5,040.00	936.00	0.00	0.00	4,104.00	18.6%		
2024/01/000188	07/26/2023	API	936.00	VND 022099	IN 1923	MAZZITTI & SULL EAP	QUARTERLY EAP	88335	
001401 422400	AUDIT COSTS								
	35,100.00	35,100.00	0.00	0.00	0.00	35,100.00	.0%		
001401 422600	INSURANCE AND BONDS								
	329,000.00	329,000.00	360,385.50	0.00	0.00	-31,385.50	109.5%		
2024/01/000004	07/01/2023	API	59,797.50	VND 032151	IN 107156	WVCorp WV COUNTIES	FY24 1ST HALF	88183	
2024/01/000004	07/01/2023	API	475.00	VND 032151	IN 107156	WVCorp WV COUNTIES	FY24 1ST HALF	88183	
2024/01/000004	07/01/2023	API	4,000.00	VND 032151	IN 107156	WVCorp WV COUNTIES	FY24 1ST HALF	88183	
2024/01/000004	07/01/2023	API	2,076.50	VND 032151	IN 107156	WVCorp WV COUNTIES	FY24 1ST HALF	88183	
2024/01/000004	07/01/2023	API	16,611.50	VND 032151	IN 107156	WVCorp WV COUNTIES	FY24 1ST HALF	88183	
2024/01/000004	07/01/2023	API	66,708.00	VND 032151	IN 107156	WVCorp WV COUNTIES	FY24 1ST HALF	88183	
2024/01/000004	07/01/2023	API	14,550.50	VND 032151	IN 107156	WVCorp WV COUNTIES	FY24 1ST HALF	88183	
2024/01/000004	07/01/2023	API	3,630.00	VND 032151	IN 107156	WVCorp WV COUNTIES	FY24 1ST HALF	88183	
2024/01/000004	07/01/2023	API	16,770.50	VND 032151	IN 107156	WVCorp WV COUNTIES	FY24 1ST HALF	88183	
2024/01/000004	07/01/2023	API	-1,882.50	VND 032151	IN 107156	WVCorp WV COUNTIES	FY24 1ST HALF	88183	
2024/03/000036	09/01/2023	API	59,797.50	VND 032151	IN 107157	WVCorp WV COUNTIES	BUSINESS AUTO	88501	
2024/03/000036	09/01/2023	API	475.00	VND 032151	IN 107157	WVCorp WV COUNTIES	CRIME	88501	
2024/03/000036	09/01/2023	API	4,000.00	VND 032151	IN 107157	WVCorp WV COUNTIES	CYBER	88501	
2024/03/000036	09/01/2023	API	2,076.50	VND 032151	IN 107157	WVCorp WV COUNTIES	EQUIP BREAKDOW	88501	
2024/03/000036	09/01/2023	API	16,611.50	VND 032151	IN 107157	WVCorp WV COUNTIES	PROPERTY	88501	
2024/03/000036	09/01/2023	API	66,708.00	VND 032151	IN 107157	WVCorp WV COUNTIES	GENERAL LIABIL	88501	
2024/03/000036	09/01/2023	API	14,550.50	VND 032151	IN 107157	WVCorp WV COUNTIES	INCREASED LIMI	88501	
2024/03/000036	09/01/2023	API	3,630.00	VND 032151	IN 107157	WVCorp WV COUNTIES	INLAND MARINE	88501	
2024/03/000036	09/01/2023	API	16,770.50	VND 032151	IN 107157	WVCorp WV COUNTIES	PUBLIC OFFICIA	88501	
2024/03/000036	09/01/2023	API	-1,882.50	VND 032151	IN 107157	WVCorp WV COUNTIES	RATE CREDIT	88501	
2024/03/000122	09/18/2023	GEN	-5,801.00	REF		move deposit to	correct fund		
2024/03/000142	09/14/2023	API	712.50	VND 032151	IN 101823BPRMP	WVCorp WV COUNTIES	WV CORP-ACCIDE	88568	
001401 422601	WORKERS COMP INSURANCE								
	130,000.00	130,000.00	120,541.50	40,180.50	0.00	9,458.50	92.7%		
2024/01/000004	07/01/2023	API	40,180.50	VND 032151	IN 107158	WVCorp WV COUNTIES	FY24 QTR 1 WOR	88184	
2024/03/000034	09/01/2023	API	40,180.50	VND 032151	IN 107159	WVCorp WV COUNTIES	FY24 QTR 2 WOR	88493	
2024/06/000015	12/01/2023	API	40,180.50	VND 032151	IN 107160	WVCorp WV COUNTIES	FY24 QTR 3 WOR	88936	
001401 422602	UNEMPLOYMENT INSURANCE								
	20,000.00	20,000.00	862.44	0.00	0.00	19,137.56	4.3%		
2024/03/000263	09/30/2023	API	862.44	VND 032116	IN QTR03/2023	WV BUREAU OF EMPLYMT	3RD QTR 2023 U	88708	

YEAR-TO-DATE BUDGET REPORT

FOR 2024 06

JOURNAL DETAIL 2024 1 TO 2024 6

ACCOUNTS FOR: 001 GENERAL FUND									
	ORIGINAL APPROP	REVISED BUDGET	YTD EXPENDED	MTD EXPENDED	ENCUMBRANCES	AVAILABLE BUDGET	% USED		
001401 422900	COURT COSTS AND DAMAGES								
	0.00	0.00	17,937.75	17,937.75	0.00	-17,937.75	100.0%		
2024/06/000037	12/11/2023 API	17,937.75	VND 012304 IN 1860-003		CAMPBELL FLANNERY PC LUTMAN VS JCC		88942		
001401 423000	CONTRACTED SERVICES								
	3,200.00	3,200.00	5,192.98	0.00	0.00	-1,992.98	162.3%		
2024/01/000054	07/07/2023 API	169.55	VND 013004 IN IN118162A		DIGITAL DOCUMENT SOL EXTRA/COLOR CO		88230		
2024/01/000054	07/06/2023 API	146.91	VND 015010 IN 42656317A		FIRST CITIZENS BANK JULY 2023 COPI		88233		
2024/01/000212	07/01/2023 GRV	3,582.00	REF FY23PP		REV FY23 PREPAIDS				
2024/02/000196	08/01/2023 API	176.67	VND 013004 IN IN119250		DIGITAL DOCUMENT SOL AUGUST 2023 CO		88413		
2024/02/000196	08/14/2023 API	146.91	VND 015010 IN 42849380		FIRST CITIZENS BANK JULY COPIER SE		88502		
2024/03/000253	09/07/2023 API	232.10	VND 013004 IN IN120820		DIGITAL DOCUMENT SOL EXTRA COLOR CO		88627		
2024/03/000253	09/01/2023 API	146.91	VND 015010 IN 43051028		FIRST CITIZENS BANK COPIER SERVICE		88630		
2024/03/000273	09/28/2023 API	146.91	VND 015010 IN 43254353		FIRST CITIZENS BANK OCTOBER COPIER		88726		
2024/04/000153	10/26/2023 API	147.26	VND 015010 IN 43453351		FIRST CITIZENS BANK MONTHLY COPIER		88796		
2024/04/000153	10/26/2023 API	38.91	VND 015010 IN 43453351		FIRST CITIZENS BANK ADJUSTED PAST		88796		
2024/05/000098	11/07/2023 API	111.59	VND 013004 IN IN123840		DIGITAL DOCUMENT SOL COVERAGE 10/6/		88846		
2024/05/000134	11/28/2023 API	147.26	VND 015010 IN 43653948		FIRST CITIZENS BANK MONTHLY COPIER		88904		
001401 423900	INSURANCE PREMIUM RETIREE								
	90,000.00	90,000.00	46,008.00	7,668.00	0.00	43,992.00	51.1%		
2024/01/000103	07/14/2023 API	7,668.00	VND 027078 IN RHBT7/2023		RETIREE HLTH BEN TRU RETIREE HEALTH		88268		
2024/02/000089	08/01/2023 API	7,668.00	VND 027078 IN RHBT08/2023		RETIREE HLTH BEN TRU RETIREE HEALTH		88353		
2024/03/000253	09/29/2023 API	7,668.00	VND 027078 IN RHBT09/23		RETIREE HLTH BEN TRU RETIREE HEALTH		88642		
2024/04/000018	10/01/2023 API	7,668.00	VND 027078 IN RHBT10/23		RETIREE HLTH BEN TRU RETIREE HEALTH		88642		
2024/05/000038	11/03/2023 API	7,668.00	VND 027078 IN RHBT11/2023		RETIREE HLTH BEN TRU RETIREE HEALTH		88803		
2024/06/000015	12/01/2023 API	7,668.00	VND 027078 IN RHBT12/2023		RETIREE HLTH BEN TRU RETIREE HEALTH		88919		
001401 434100	MATERIALS AND SUPPLIES								
	2,700.00	2,700.00	8,636.94	0.00	0.00	-5,936.94	319.9%		
2024/01/000243	07/31/2023 API	97.94	VND 037008 IN 2023471		AMAZON	OFFICE SUPPLIE			
2024/05/000098	11/16/2023 API	8,539.00	VND 012025 IN 2023 GARLAND		CITY OF CHARLES TOWN GARLAND FOR CO		88843		
001401 435300	COMPUTER SOFTWARE								
	1,000.00	1,000.00	34.18	0.00	0.00	965.82	3.4%		
2024/01/000248	07/31/2023 API	58.85	VND 037037 IN 2023714		MICROSOFT OFFICE	MICROSOFT PROJ			
2024/02/000351	08/31/2023 API	-24.67	VND 037037 IN 2023860		MICROSOFT OFFICE	MICROSOFT*365			
001401 435600	LICENSE AND ANNUAL FEES								
	0.00	0.00	149.00	0.00	0.00	-149.00	100.0%		
2024/03/000363	09/30/2023 API	149.00	VND 012025 IN JCC ANNUAL PARKING		CITY OF CHARLES TOWN CITY OF CHARLE				

YEAR-TO-DATE BUDGET REPORT

FOR 2024 06

JOURNAL DETAIL 2024 1 TO 2024 6

ACCOUNTS FOR: 001 GENERAL FUND	ORIGINAL APPROP	REVISED BUDGET	YTD EXPENDED	MTD EXPENDED	ENCUMBRANCES	AVAILABLE BUDGET	% USED
001401 456700 CONTR/TRSFR OTHR GOV UNIT	4,800.00	4,800.00	4,800.00	0.00	0.00	0.00	100.0%
2024/01/000103 07/13/2023 API		4,800.00 VND 037192 IN 2021438			WV TREASURY	EFT FY24 WV PR	88314
001401 456708 IN-KIND RENT-FARMLAND PROT BD	14,231.00	14,231.00	0.00	0.00	0.00	14,231.00	.0%
001401 456800 CONTRIBUTION/ TRANSFER OTHER	1,000.00	1,000.00	0.00	0.00	0.00	1,000.00	.0%
001401 456800 G2011 CONTRIBUTION/ TRANSFER OTHER	0.00	0.00	77,500.00	0.00	0.00	-77,500.00	100.0%
2024/01/000004 07/01/2023 API		38,750.00 VND 019044 IN DAY24/1			JEFF DAY REPORT CNTR 2023/24 ALLOC		88206
2024/04/000002 10/05/2023 API		38,750.00 VND 019044 IN DAY24/2			JEFF DAY REPORT CNTR 2023/24 ALLOCA		88636
TOTAL COUNTY COMMISSION	1,808,461.00	1,800,611.00	974,298.85	120,850.59	0.00	826,312.15	54.1%
TOTAL GENERAL FUND	1,808,461.00	1,800,611.00	974,298.85	120,850.59	0.00	826,312.15	54.1%
TOTAL EXPENSES	1,808,461.00	1,800,611.00	974,298.85	120,850.59	0.00	826,312.15	

YEAR-TO-DATE BUDGET REPORT

FOR 2024 06

JOURNAL DETAIL 2024 1 TO 2024 6

	ORIGINAL APPROP	REVISED BUDGET	YTD EXPENDED	MTD EXPENDED	ENCUMBRANCES	AVAILABLE BUDGET	% USED
GRAND TOTAL	1,808,461.00	1,800,611.00	974,298.85	120,850.59	0.00	826,312.15	54.1%

** END OF REPORT - Generated by Tina Branson **

Impact Fee Status Report
December 2023

Office of Impact Fees

Summary

Date Range: Friday 1 through Sunday 31 December 2023
Report Date: 2 January 2024
Process Number Range: 2300752 - 2300813
Total Applications: 62

Total Non-Exempt: 56
Of which:
Commercial: 0
Residential: 56
Of which:
County: 16
Municipal: 40

Total Exempt: 6
Of which:
Commercial: 0
Residential: 6
Of which:
County: 6
Municipal: 0

Tables 1 through 7 summarize impact fee processing for December 2023. Table 8 represents account totals, pending the transfer of fees collected as shown in Table 1, including General Impact Fee Account (3111776) interest which is listed in Table 2.

Table 1. Form 100 Tallies

	Exempt	Commercial	Residential	**Total**
1 – 31 December 2023	6	0	56	**62**
Fees collected		$0.00	$74,000.00	**$74,000.00**
Of which				
School Impact Fee			$56.00	**$56.00**
Law Enforcement Fee		$0.00	$9,040.00	**$9,040.00**
Parks & Recreation Fee			$56,336.00	**$56,336.00**
EMS Fee		$0.00	$5,936.00	**$5,936.00**
Admin. Facilities Fee		$0.00	$2,632.00	**$2,632.00**

Table 6. Financial Data –EMS Impact Fee Account (3122816)

Description	Amount
Opening Balance (1 December 2023)	$83,367.81
November Transactions (deposits via transfer on 18 December 2023)	$4,746.30
Interest Earned (31 December 2023)	$54.47
Ending Balance (31 December 2023)	**$88,168.58**

Table 7. Financial Data - Admin. Facilities Impact Fee Account (33182570)

Description	Amount
Opening Balance (1 December 2023)	$56,728.92
November Transactions (deposits via transfer on 18 December 2023)	$2,099.15
Interest Earned (31 December 2023)	$14.70
Ending Balance (31 December 2023)	**$58,842.77**

Table 8. Total Impact Fees as of 1 December 2023/1

Description	Amount
Office of Impact Fees General Account	$74,050.40
School Impact Fee Account	$2,004,875.24
Law Enforcement Fee Account	$548,331.95
Parks & Recreation Impact Fee Account	$1,269,939.98
EMS Impact Fee Account	$88,168.58
Administrative Facilities Account	$58,842.77
Total Impact Fees	**$4,044,208.92**

/1 These values represent both impact fees collected and interest earned. The general account includes the outstanding credits listed in table 2 and outstanding debits, if any, listed in tables 3-7.

Form 100 Transaction Summary

Jefferson County Government – Office of Impact Fees

Impact Fee Applications Processed between dates Friday 1 through Sunday 31 December 2023

Process Number	Date	Last Name	First Name	Tax District	Deed Book	Deed Page	Tax Map	Parcel	Impact Fees Collected	Date	Exemption Reason
Exempt Applications											
2300757	12/05/2023	Blumenthal	Carol	07 Middleway	1255	495	18	49	$0.00	12/05/2023	Form 200
2300797	12/14/2023	Lutman Land		02 Charles Town	1300	5	10E	18	$0.00	12/14/2023	Form 200
2300798	12/14/2023	Lutman Land		02 Charles Town	1309	228	10E	19	$0.00	12/14/2023	Form 200
2300799	12/14/2023	Lutman Land		02 Charles Town	1301	220	10E	20	$0.00	12/14/2023	Form 200
2300800	12/14/2023	Lutman Land		02 Charles Town	1301	581	10E	21	$0.00	12/14/2023	Form 200
2300801	12/14/2023	Lutman Land		02 Charles Town	1301	38	10E	8	$0.00	12/14/2023	Form 200
Category Count: 6									**Category Total**	**$0.00**	
Non-Exempt Applications											
2300752	12/01/2023	Smith	Jeff	02 Charles Town	1172	742	10C	19.1	$1,725.00	12/01/2023	N/A
2300753	12/05/2023	Maronda Homes		08 Ranson Corp	1297	595	9	8	$1,160.00	12/05/2023	N/A
2300754	12/05/2023	Maronda Homes		08 Ranson Corp	1297	595	9	8	$1,160.00	12/05/2023	N/A
2300755	12/05/2023	Maronda Homes		08 Ranson Corp	1297	595	9	8	$1,160.00	12/05/2023	N/A
2300756	12/05/2023	Maronda Homes		08 Ranson Corp	1297	595	9	8	$1,160.00	12/05/2023	N/A
2300758	12/05/2023	Wormald, Jr.	Robert	04 Harpers Ferry	975	635	10A	301	$1,725.00	12/05/2023	N/A
2300759	12/05/2023	Lutman Land		09 Shepherdstown	1308	349	7	15.5	$1,725.00	12/05/2023	N/A
2300760	12/06/2023	Lutman Land		09 Shepherdstown	1308	349	7	15.5	$1,725.00	12/06/2023	N/A
2300761	12/06/2023	Lutman Land		09 Shepherdstown	1308	349	7	15.5	$1,725.00	12/06/2023	N/A
2300762	12/06/2023	Lutman Land		06 Kabletown	1300	710	9	19.31	$1,725.00	12/06/2023	N/A
2300763	12/06/2023	Lutman Land		06 Kabletown	1300	710	9	19.31	$1,725.00	12/06/2023	N/A
2300764	12/06/2023	Sissler	Linda	06 Kabletown	1087	633	22	2.3	$1,725.00	12/06/2023	N/A
2300765	12/06/2023	Dan Ryan Builder		02 Charles Town	994	67	19	22	$1,725.00	12/06/2023	N/A
2300766	12/06/2023	Dan Ryan Builder		02 Charles Town	994	67	19	22	$1,725.00	12/06/2023	N/A
2300767	12/06/2023	Dan Ryan Builder		02 Charles Town	994	67	19	22	$1,725.00	12/06/2023	N/A
2300768	12/06/2023	Dan Ryan Builder		02 Charles Town	994	67	19	22	$1,725.00	12/06/2023	N/A
2300769	12/06/2023	Dan Ryan Builder		02 Charles Town	994	67	19	22	$1,725.00	12/06/2023	N/A
2300770	12/07/2023	Maronda Homes		08 Ranson Corp	1297	595	9	8	$1,160.00	12/07/2023	N/A

Process Number	Date	Last Name	First Name	Tax District	Deed Book	Deed Page	Tax Map	Parcel	Impact Fees Collected	Date	Exemption Reason
Non-Exempt Applications											
2300807	12/20/2023	Stanley Martin		08 Ranson Corp	1230	240	8	1	$1,160.00	12/20/2023	N/A
2300808	12/20/2023	Stanley Martin		08 Ranson Corp	1230	240	8	1	$1,160.00	12/20/2023	N/A
2300809	12/20/2023	Stanley Martin		08 Ranson Corp	1230	240	8	1	$1,160.00	12/20/2023	N/A
2300810	12/20/2023	Stanley Martin		08 Ranson Corp	1230	240	8	1	$1,160.00	12/20/2023	N/A
2300811	12/20/2023	Stanley Martin		08 Ranson Corp	1230	240	8	1	$1,160.00	12/20/2023	N/A
2300812	12/20/2023	Stanley Martin		08 Ranson Corp	1230	240	8	1	$1,160.00	12/20/2023	N/A
2300813	12/20/2023	Stanley Martin		08 Ranson Corp	1230	240	8	1	$1,160.00	12/20/2023	N/A
Category Count: 56								**Category Total**	**$74,000.00**		
TOTAL APPLICATIONS: 62								**Grand Total**	**$74,000.00**		

JEFFERSON COUNTY, WEST VIRGINIA
Engineering Department
Office of Impact Fees
116 East Washington Street, P.O. Box 716
Charles Town, WV 25414

COPY

Michelle Mason
Impact Fee Program Specialist

Phone: (304) 728-3331
Fax: (304) 728-3953
mmason@jeffersoncountywv.org

MEMORANDUM

TO: Jessica James, Tina Branson, and Teresa Hendricks

FROM: Michelle Mason

DATE: Tuesday, January 2, 2024

SUBJECT: **Transfer of Funds from Office of Impact Fees General Account to Sheriff's Schools Impact Fee Account.**

Attached please find Office of Impact Fees Form 655 which documents the transfer of impact fee funds from the Office of Impact Fees General Account (Bank of Charles Town account 3111776) to the **Sheriff of Jefferson County School Impact Fee Account (Bank of Charles Town account 3107582)** and an invoice to serve as the bill head for the transfer. This transfer is for Impact Fees collected by the Office of Impact Fees for the month of December 2023.

This transfer consists of two components:

- Impact Fee Process Numbers **2300752** through **2300813**, inclusive. Within this range there were 56 non-exempt impact fee payments. This amounts to **$56.00**.

- Interest earned by the Office of Impact Fees General Account in December 2023 amounts to **$50.40**, of which **$0.00** is attributed to fees collected for Schools.

As per the attached invoice, the total amount of this transfer is $56.00.

Check # 1437

655

Account Withdraws

Office of Impact Fees - Jefferson County Government

Account 3111776

Schools

Check Number 1437

Trace 20240102:40019.69
Date 1/2/2024 **Series** 1

Recipient Sheriff of Jefferson County
Amount $56.00

Account 3107582
Signature 1 Steve Stolipher
Signature 2 Sheriff Tom Hansen
Signature 3 Jacqueline C. Shadle

Notes: Transfer of Impact Fees From General Account for School Impact Fees Collected in December 2023.

Deposit Date	Process Number	Ordinance	Enact Date	Amount
12/4/2023	2300752	2003-3	11/24/2005	$1.00
12/6/2023	2300753	2003-3	11/24/2005	$1.00
12/6/2023	2300754	2003-3	11/24/2005	$1.00
12/6/2023	2300755	2003-3	11/24/2005	$1.00
12/6/2023	2300756	2003-3	11/24/2005	$1.00
12/6/2023	2300758	2003-3	11/24/2005	$1.00
12/6/2023	2300759	2003-3	11/24/2005	$1.00
12/7/2023	2300760	2003-3	11/24/2005	$1.00
12/7/2023	2300761	2003-3	11/24/2005	$1.00
12/7/2023	2300762	2003-3	11/24/2005	$1.00
12/7/2023	2300763	2003-3	11/24/2005	$1.00
12/7/2023	2300764	2003-3	11/24/2005	$1.00
12/7/2023	2300765	2003-3	11/24/2005	$1.00
12/7/2023	2300766	2003-3	11/24/2005	$1.00
12/7/2023	2300767	2003-3	11/24/2005	$1.00
12/7/2023	2300768	2003-3	11/24/2005	$1.00
12/7/2023	2300769	2003-3	11/24/2005	$1.00
12/8/2023	2300770	2003-3	11/24/2005	$1.00
12/8/2023	2300771	2003-3	11/24/2005	$1.00
12/11/2023	2300772	2003-3	11/24/2005	$1.00
12/11/2023	2300773	2003-3	11/24/2005	$1.00
12/11/2023	2300774	2003-3	11/24/2005	$1.00
12/11/2023	2300775	2003-3	11/24/2005	$1.00
12/11/2023	2300776	2003-3	11/24/2005	$1.00
12/11/2023	2300777	2003-3	11/24/2005	$1.00
12/11/2023	2300778	2003-3	11/24/2005	$1.00
12/11/2023	2300779	2003-3	11/24/2005	$1.00
12/11/2023	2300780	2003-3	11/24/2005	$1.00
12/11/2023	2300781	2003-3	11/24/2005	$1.00
12/11/2023	2300782	2003-3	11/24/2005	$1.00
12/11/2023	2300783	2003-3	11/24/2005	$1.00

Jefferson County Commission

P.O. Box 250
Charles Town, WV 25414

Invoice

Number: 24001
Date: 1/2/2024

Bill To:	**Pay To:**
Office of Impact Fees 116 East Washington Street Suite 100 Charles Town, WV 25414	Sheriff of Jefferson County P.O. Box 9 Charles Town, WV 25414

P.O. Number	**Vendor Number**

Description	**Amount**
Impact Fee payments collected for month of December 2023 into the Office of Impact Fees General Account (3111776) to be paid to the Sheriff of Jefferson County School Impact Fees Bank Account (3107582).	$56.00
Interest earned by the Office of Impact Fees General Account December 2023.	
Impact Fee Process Numbers 2300752 through 2300813, inclusive. Within this range, there were 56 non-exempt impact fee payments.	
Total:	**$56.00**

Notes/Comments: **Transfer of funds into School Impact Fee Account (3107582).**

Check Number: **1437**

JEFFERSON COUNTY, WEST VIRGINIA
Engineering Department
Office of Impact Fees
116 East Washington Street, P.O. Box 716
Charles Town, WV 25414

COPY

Michelle Mason
Impact Fee Program Specialist

Phone: (304) 728-3331
Fax: (304) 728-3953
mmason@jeffersoncountywv.org

MEMORANDUM

TO: Jessica James, Tina Branson, and Teresa Hendricks

FROM: Michelle Mason MM

DATE: Tuesday, January 2, 2024

SUBJECT: **Transfer of Funds from Office of Impact Fees General Account to Sheriff's Law Enforcement Impact Fee Account.**

Attached please find Office of Impact Fees Form 655 which documents the transfer of impact fee funds from the Office of Impact Fees General Account (Bank of Charles Town account 3111776) to the **Sheriff of Jefferson County Law Enforcement Impact Fee Account (Bank of Charles Town account 3120120)** and an invoice to serve as the bill head for the transfer. This transfer is for Impact Fees collected by the Office of Impact Fees for the month of December 2023.

This transfer consists of two components:

- Impact Fee Process Numbers **2300752** through **2300813**, inclusive. Within this range there were 16 non-exempt impact fee payments. This amounts to **$9,040.00**.
- Interest earned by the Office of Impact Fees General Account in December 2023 amounts to **$50.40**, of which **$6.05** is attributed to fees collected for Law Enforcement.

As per the attached invoice, the total amount of this transfer is $9,046.05.

Check # 1438

655

Account Withdraws

Office of Impact Fees - Jefferson County Government

Account 3111776

Law Enforcement

Check Number 1438

Trace 20240102:40144.82

Date 1/2/2024 **Series** 2

Recipient Sheriff of Jefferson County

Amount $9,040.00

Account 3120120

Signature 1 Steve Stolipher

Signature 2 Sheriff Tom Hansen

Signature 3 Jacqueline C. Shadle

Notes: Transfer of Impact Fees From General Account for Law Enforcement Impact Fees Collected in December 2023.

Deposit Date	Process Number	Ordinance	Enact Date	Amount
12/4/2023	2300752	2005-1	3/22/2005	$565.00
12/6/2023	2300753	2005-1	3/22/2005	$0.00
12/6/2023	2300754	2005-1	3/22/2005	$0.00
12/6/2023	2300755	2005-1	3/22/2005	$0.00
12/6/2023	2300756	2005-1	3/22/2005	$0.00
12/6/2023	2300758	2005-1	3/22/2005	$565.00
12/6/2023	2300759	2005-1	3/22/2005	$565.00
12/7/2023	2300760	2005-1	3/22/2005	$565.00
12/7/2023	2300761	2005-1	3/22/2005	$565.00
12/7/2023	2300762	2005-1	3/22/2005	$565.00
12/7/2023	2300763	2005-1	3/22/2005	$565.00
12/7/2023	2300764	2005-1	3/22/2005	$565.00
12/7/2023	2300765	2005-1	3/22/2005	$565.00
12/7/2023	2300766	2005-1	3/22/2005	$565.00
12/7/2023	2300767	2005-1	3/22/2005	$565.00
12/7/2023	2300768	2005-1	3/22/2005	$565.00
12/7/2023	2300769	2005-1	3/22/2005	$565.00
12/8/2023	2300770	2005-1	3/22/2005	$0.00
12/8/2023	2300771	2005-1	3/22/2005	$0.00
12/11/2023	2300772	2005-1	3/22/2005	$0.00
12/11/2023	2300773	2005-1	3/22/2005	$0.00
12/11/2023	2300774	2005-1	3/22/2005	$0.00
12/11/2023	2300775	2005-1	3/22/2005	$0.00
12/11/2023	2300776	2005-1	3/22/2005	$0.00
12/11/2023	2300777	2005-1	3/22/2005	$0.00
12/11/2023	2300778	2005-1	3/22/2005	$0.00
12/11/2023	2300779	2005-1	3/22/2005	$0.00
12/11/2023	2300780	2005-1	3/22/2005	$0.00
12/11/2023	2300781	2005-1	3/22/2005	$0.00
12/11/2023	2300782	2005-1	3/22/2005	$0.00

Jefferson County Commission

P.O. Box 250
Charles Town, WV 25414

Invoice

Number: 24002
Date: 1/2/2024

Bill To:	**Pay To:**
Office of Impact Fees 116 East Washington Street Suite 100 Charles Town, WV 25414	Sheriff of Jefferson County P.O. Box 9 Charles Town, WV 25414

P.O. Number	**Vendor Number**

Description	**Amount**
Impact Fee payments collected for month of December 2023 into the Office of Impact Fees General Account (3111776) to be paid to the Sheriff of Jefferson County Law Enforcement Impact Fees Bank Account (3120120).	$9,040.00
Interest earned by the Office of Impact Fees General Account December 2023.	$6.05
Impact Fee Process Numbers 2300752 through 2300813, inclusive. Within this range, there were 16 non-exempt impact fee payments.	
Total:	**$9,046.05**

Notes/Comments: Transfer of funds into Law Enforcement Impact Fee Account (3120120).

Check Number: 1438

JEFFERSON COUNTY, WEST VIRGINIA
Engineering Department
Office of Impact Fees
116 East Washington Street, P.O. Box 716
Charles Town, WV 25414

COPY

Michelle Mason
Impact Fee Program Specialist

Phone: (304) 728-3331
Fax: (304) 728-3953
mmason@jeffersoncountywv.org

MEMORANDUM

TO: Jessica James, Tina Branson, and Teresa Hendricks

FROM: Michelle Mason MM

DATE: Tuesday, January 2, 2024

SUBJECT: **Transfer of Funds from Office of Impact Fees General Account to Sheriff's Parks and Recreation Impact Fee Account.**

Attached please find Office of Impact Fees Form 655 which documents the transfer of impact fee funds from the Office of Impact Fees General Account (Bank of Charles Town account 3111776) to the **Sheriff of Jefferson County Parks and Recreation Impact Fee Account (Bank of Charles Town account 3122808)** and an invoice to serve as the bill head for the transfer. This transfer is for Impact Fees collected by the Office of Impact Fees for the month of December 2023.

This transfer consists of two components:

- Impact Fee Process Numbers **2300752** through **2300813**, inclusive. Within this range there were 56 non-exempt impact fee payments. This amounts to **$56,336.00**.
- Interest earned by the Office of Impact Fees General Account in December 2023 amounts to **$50.40**, of which **$38.30** is attributed to fees collected for Parks and Recreation.

As per the attached invoice, the total amount of this transfer is $56,374.30.

Check # 1439

655

Account Withdraws

Office of Impact Fees - Jefferson County Government

Account 3111776

Parks & Rec

Check Number 1439

Trace 20240102:40199.52

Date 1/2/2024 **Series** 3

Recipient Sheriff of Jefferson County

Amount $56,336.00

Account 3122808

Signature 1 Steve Stolipher

Signature 2 Sheriff Tom Hansen

Signature 3 Jacqueline C. Shadle

Notes: Transfer of Impact Fees From General Account for Parks and Rec Impact Fees Collected in December 2023.

Deposit Date	Process Number	Ordinance	Enact Date	Amount
12/4/2023	2300752	2005-2	5/12/2005	$1,006.00
12/6/2023	2300753	2005-2	5/12/2005	$1,006.00
12/6/2023	2300754	2005-2	5/12/2005	$1,006.00
12/6/2023	2300755	2005-2	5/12/2005	$1,006.00
12/6/2023	2300756	2005-2	5/12/2005	$1,006.00
12/6/2023	2300758	2005-2	5/12/2005	$1,006.00
12/6/2023	2300759	2005-2	5/12/2005	$1,006.00
12/7/2023	2300760	2005-2	5/12/2005	$1,006.00
12/7/2023	2300761	2005-2	5/12/2005	$1,006.00
12/7/2023	2300762	2005-2	5/12/2005	$1,006.00
12/7/2023	2300763	2005-2	5/12/2005	$1,006.00
12/7/2023	2300764	2005-2	5/12/2005	$1,006.00
12/7/2023	2300765	2005-2	5/12/2005	$1,006.00
12/7/2023	2300766	2005-2	5/12/2005	$1,006.00
12/7/2023	2300767	2005-2	5/12/2005	$1,006.00
12/7/2023	2300768	2005-2	5/12/2005	$1,006.00
12/7/2023	2300769	2005-2	5/12/2005	$1,006.00
12/8/2023	2300770	2005-2	5/12/2005	$1,006.00
12/8/2023	2300771	2005-2	5/12/2005	$1,006.00
12/11/2023	2300772	2005-2	5/12/2005	$1,006.00
12/11/2023	2300773	2005-2	5/12/2005	$1,006.00
12/11/2023	2300774	2005-2	5/12/2005	$1,006.00
12/11/2023	2300775	2005-2	5/12/2005	$1,006.00
12/11/2023	2300776	2005-2	5/12/2005	$1,006.00
12/11/2023	2300777	2005-2	5/12/2005	$1,006.00
12/11/2023	2300778	2005-2	5/12/2005	$1,006.00
12/11/2023	2300779	2005-2	5/12/2005	$1,006.00
12/11/2023	2300780	2005-2	5/12/2005	$1,006.00
12/11/2023	2300781	2005-2	5/12/2005	$1,006.00
12/11/2023	2300782	2005-2	5/12/2005	$1,006.00

Jefferson County Commission

P.O. Box 250
Charles Town, WV 25414

Invoice

Number: 24003
Date: 1/2/2024

Bill To:	**Pay To:**
Office of Impact Fees 116 East Washington Street Suite 100 Charles Town, WV 25414	Sheriff of Jefferson County P.O. Box 9 Charles Town, WV 25414

P.O. Number	**Vendor Number**

Description	**Amount**
Impact Fee payments collected for month of December 2023 into the Office of Impact Fees General Account (3111776) to be paid to the Sheriff of Jefferson County Parks & Recreation Impact Fees Bank Account (3122808).	$56,336.00
Interest earned by the Office of Impact Fees General Account December 2023.	$38.30
Impact Fee Process Numbers 2300752 through 2300813, inclusive. Within this range, there were 56 non-exempt impact fee payments.	
Total:	**$56,374.30**

Notes/Comments: **Transfer of funds into Parks & Recreation Impact Fee Account (3122808).**

Check Number: **1439**

JEFFERSON COUNTY, WEST VIRGINIA
Engineering Department
Office of Impact Fees
116 East Washington Street, P.O. Box 716
Charles Town, WV 25414

COPY

Michelle Mason
Impact Fee Program Specialist

Phone: (304) 728-3331
Fax: (304) 728-3953
mmason@jeffersoncountywv.org

MEMORANDUM

TO: Jessica James, Tina Branson, and Teresa Hendricks

FROM: Michelle Mason MM

DATE: Tuesday, January 2, 2024

SUBJECT: **Transfer of Funds from Office of Impact Fees General Account to Sheriff's Emergency Services Impact Fee Account.**

Attached please find Office of Impact Fees Form 655 which documents the transfer of impact fee funds from the Office of Impact Fees General Account (Bank of Charles Town account 3111776) to the **Sheriff of Jefferson County Emergency Services Impact Fee Account (Bank of Charles Town account 3122816)** and an invoice to serve as the bill head for the transfer. This transfer is for Impact Fees collected by the Office of Impact Fees for the month of December 2023.

This transfer consists of two components:

- Impact Fee Process Numbers **2300752** through **2300813**, inclusive. Within this range there were 56 non-exempt impact fee payments. This amounts to **$5,936.00**.

- Interest earned by the Office of Impact Fees General Account in December 2023 amounts to **$50.40**, of which **$4.03** is attributed to fees collected for Emergency Services.

As per the attached invoice, the total amount of this transfer is $5,940.03.

Check # 1440

655

Account Withdraws

Office of Impact Fees - Jefferson County Government

Account 3111776

EMS

Check Number 1440

Trace 20240102:40272.98
Date 1/2/2024 **Series** 4

Recipient Sheriff of Jefferson County
Amount $5,936.00

Account 3122816
Signature 1 Steve Stolipher
Signature 2 Sheriff Tom Hansen
Signature 3 Jacqueline C. Shadle

Notes: Transfer of Impact Fees From General Account for EMS Impact Fees Collected in December 2023.

Deposit Date	Process Number	Ordinance	Enact Date	Amount
12/4/2023	2300752	2005-3	5/12/2005	$106.00
12/6/2023	2300753	2005-3	5/12/2005	$106.00
12/6/2023	2300754	2005-3	5/12/2005	$106.00
12/6/2023	2300755	2005-3	5/12/2005	$106.00
12/6/2023	2300756	2005-3	5/12/2005	$106.00
12/6/2023	2300758	2005-3	5/12/2005	$106.00
12/6/2023	2300759	2005-3	5/12/2005	$106.00
12/7/2023	2300760	2005-3	5/12/2005	$106.00
12/7/2023	2300761	2005-3	5/12/2005	$106.00
12/7/2023	2300762	2005-3	5/12/2005	$106.00
12/7/2023	2300763	2005-3	5/12/2005	$106.00
12/7/2023	2300764	2005-3	5/12/2005	$106.00
12/7/2023	2300765	2005-3	5/12/2005	$106.00
12/7/2023	2300766	2005-3	5/12/2005	$106.00
12/7/2023	2300767	2005-3	5/12/2005	$106.00
12/7/2023	2300768	2005-3	5/12/2005	$106.00
12/7/2023	2300769	2005-3	5/12/2005	$106.00
12/8/2023	2300770	2005-3	5/12/2005	$106.00
12/8/2023	2300771	2005-3	5/12/2005	$106.00
12/11/2023	2300772	2005-3	5/12/2005	$106.00
12/11/2023	2300773	2005-3	5/12/2005	$106.00
12/11/2023	2300774	2005-3	5/12/2005	$106.00
12/11/2023	2300775	2005-3	5/12/2005	$106.00
12/11/2023	2300776	2005-3	5/12/2005	$106.00
12/11/2023	2300777	2005-3	5/12/2005	$106.00
12/11/2023	2300778	2005-3	5/12/2005	$106.00
12/11/2023	2300779	2005-3	5/12/2005	$106.00
12/11/2023	2300780	2005-3	5/12/2005	$106.00
12/11/2023	2300781	2005-3	5/12/2005	$106.00
12/11/2023	2300782	2005-3	5/12/2005	$106.00
12/11/2023	2300783	2005-3	5/12/2005	$106.00

Jefferson County Commission

P.O. Box 250
Charles Town, WV 25414

Invoice

Number: 24004
Date: 1/2/2024

Bill To:	**Pay To:**
Office of Impact Fees 116 East Washington Street Suite 100 Charles Town, WV 25414	Sheriff of Jefferson County P.O. Box 9 Charles Town, WV 25414

P.O. Number	**Vendor Number**

Description	**Amount**
Impact Fee payments collected for month of December 2023 into the Office of Impact Fees General Account (3111776) to be paid to the Sheriff of Jefferson County EMS Impact Fees Bank Account (3122816).	$5,936.00
Interest earned by the Office of Impact Fees General Account December 2023.	$4.03
Impact Fee Process Numbers 2300752 through 2300813, inclusive. Within this range, there were 56 non-exempt impact fee payments.	
Total:	**$5,940.03**

Notes/Comments: Transfer of funds into EMS Impact Fee Account (3122816).

Check Number: 1440

JEFFERSON COUNTY, WEST VIRGINIA
Engineering Department
Office of Impact Fees
116 East Washington Street, P.O. Box 716
Charles Town, WV 25414

COPY

Michelle Mason
Impact Fee Program Specialist

Phone: (304) 728-3331
Fax: (304) 728-3953
mmason@jeffersoncountywv.org

MEMORANDUM

TO: Jessica James, Tina Branson, and Teresa Hendricks

FROM: Michelle Mason

DATE: Tuesday, January 2, 2024

SUBJECT: **Transfer of Funds from Office of Impact Fees General Account to Sheriff's Administrative Facilities Impact Fee Account.**

Attached please find Office of Impact Fees Form 655 which documents the transfer of impact fee funds from the Office of Impact Fees General Account (Bank of Charles Town account 3111776) to the **Sheriff of Jefferson County Administrative Facilities Impact Fee Account (Bank of Charles Town account 33182570)** and an invoice to serve as the bill head for the transfer. This transfer is for Impact Fees collected by the Office of Impact Fees for the month of December 2023.

This transfer consists of two components:

- Impact Fee Process Numbers **2300752** through **2300813**, inclusive. Within this range there were 56 non-exempt impact fee payments. This amounts to **$2,632.00**.
- Interest earned by the Office of Impact Fees General Account in December 2023 amounts to **$50.40**, of which **$2.02** is attributed to fees collected for Administrative Facilities.

As per the attached invoice, the total amount of this transfer is $2,634.02.

Check # 1441

655

Account Withdraws

Office of Impact Fees - Jefferson County Government

Account 3111776

Admin. Facilities

Check Number 1441

Trace 20240102:40314.71

Date 1/2/2024 **Series** 5

Recipient Sheriff of Jefferson County

Amount $2,632.00

Account 33182570

Signature 1 Steve Stolipher

Signature 2 Sheriff Tom Hansen

Signature 3 Jacqueline C. Shadle

Notes: Transfer of Impact Fees From General Account for Admin. Facilities Impact Fees Collected in December 2023.

Deposit Date	Process Number	Ordinance	Enact Date	Amount
12/4/2023	2300752	2021-1	8/5/2021	$47.00
12/6/2023	2300753	2021-1	8/5/2021	$47.00
12/6/2023	2300754	2021-1	8/5/2021	$47.00
12/6/2023	2300755	2021-1	8/5/2021	$47.00
12/6/2023	2300756	2021-1	8/5/2021	$47.00
12/6/2023	2300758	2021-1	8/5/2021	$47.00
12/6/2023	2300759	2021-1	8/5/2021	$47.00
12/7/2023	2300760	2021-1	8/5/2021	$47.00
12/7/2023	2300761	2021-1	8/5/2021	$47.00
12/7/2023	2300762	2021-1	8/5/2021	$47.00
12/7/2023	2300763	2021-1	8/5/2021	$47.00
12/7/2023	2300764	2021-1	8/5/2021	$47.00
12/7/2023	2300765	2021-1	8/5/2021	$47.00
12/7/2023	2300766	2021-1	8/5/2021	$47.00
12/7/2023	2300767	2021-1	8/5/2021	$47.00
12/7/2023	2300768	2021-1	8/5/2021	$47.00
12/7/2023	2300769	2021-1	8/5/2021	$47.00
12/8/2023	2300770	2021-1	8/5/2021	$47.00
12/8/2023	2300771	2021-1	8/5/2021	$47.00
12/11/2023	2300772	2021-1	8/5/2021	$47.00
12/11/2023	2300773	2021-1	8/5/2021	$47.00
12/11/2023	2300774	2021-1	8/5/2021	$47.00
12/11/2023	2300775	2021-1	8/5/2021	$47.00
12/11/2023	2300776	2021-1	8/5/2021	$47.00
12/11/2023	2300777	2021-1	8/5/2021	$47.00
12/11/2023	2300778	2021-1	8/5/2021	$47.00
12/11/2023	2300779	2021-1	8/5/2021	$47.00
12/11/2023	2300780	2021-1	8/5/2021	$47.00
12/11/2023	2300781	2021-1	8/5/2021	$47.00
12/11/2023	2300782	2021-1	8/5/2021	$47.00

Jefferson County Commission

P.O. Box 250
Charles Town, WV 25414

Invoice

Number: 24005
Date: 1/2/2024

Bill To:	**Pay To:**
Office of Impact Fees 116 East Washington Street Suite 100 Charles Town, WV 25414	Sheriff of Jefferson County P.O. Box 9 Charles Town, WV 25414

P.O. Number	**Vendor Number**

Description	**Amount**
Impact Fee payments collected for month of December 2023 into the Office of Impact Fees General Account (3111776) to be paid to the Sheriff of Jefferson County Administrative Facilities Impact Fees Bank Account (33182570).	$2,632.00
Interest earned by the Office of Impact Fees General Account December 2023.	$2.02
Impact Fee Process Numbers 2300752 through 2300813, inclusive. Within this range, there were 56 non-exempt impact fee payments.	
Total:	**$2,634.02**

Notes/Comments: Transfer of funds into Administrative Facilities Impact Fee Account (33182570).

Check Number: 1441

AGENDA REQUEST FORM

www.jeffersoncountywv.org

Name: **Jacki Shadle**
Department or Organization: **County Clerk**
Estimation of amount of time needed for appointment: **5 minutes**
Date Requested – 1st Choice: **January 18, 2024**
If a specific date is needed, please provide reason for specific date:
Date Requested – 2nd Choice:

Subject (*Wording to be placed on agendo*): **New Hire approval for full time Probate Clerk**

Please provide the County Commission with a description of your request or presentation, including any background information:

I would like to hire Joseph Burwell as a full-time Probate Clerk. His start date will be January 22, 2024.

Is this a funding request? **Y**/N
If so, how much?
Provide exact financial impact/request:

Recommended motion (*Please type out the wording of the motion that you would like the Commission to approve*):

To hire Joseph Burwell as a full-time Probate Clerk with a start date of January 22. 2024.

Attach supporting documents for request, or request may be denied.
If not attached, explain:

Is equipment needed? Projector Y/N Internet/Wi Fi Y/N. Telephone for conference call Y/N

FOR COMMISSION STAFF USE ONLY – FINANCIAL IMPACT/RECOMMENDATION

Public Comment for Jefferson County Commission meeting for January 4, 2024

I, David Tabb, a lifelong resident/taxpayer make the following comments:

PUBLIC COMMENT – From the minutes of December 21, 2023:

Presentation #11 – Nathan Cochran Item "e".

"Fire levy is not ready to move forward..."

Here we go! I, David Tabb have told the public for two (2) years that Stolipher was going to put a fire levy on the taxpayers. The taxpayers just had their largest tax increase ever. The Jefferson County taxpayers have already paid enough money for emergency services. The fact is Stolipher and his band of thieves took the money for impact fees and gave that back to his development buddies. November 2024 is not that far away to replace the Charles Town Magistrate District County Commissioner. David Tabb will be on the ballot. The question is: Does the resident tax payer want more taxes and less service or accountably and a voice to how the government is to be run?

Presentation #16 –

Bowles, Rice and Jackson Kelly reinstated the June 2022 Solar Text Amendment.

(1) Stolipher should not be allowed to even be involved in any Solar Text Amendment; especially for executive session.
(2) To rescind action of the Solar Text of September 7, 2023. Vote was 3-0. Jackson and Krouse recused themselves. Stolipher's name was not in the minutes, so who was the third (3rd) vote? If Stolipher did vote it would be a conflict.

With the current County Commission and our other state elected officials, to include our elected judicial judges: it appears the government is fighting the government and its quite hilarious! It used to be, just the government fighting David Tabb!

With all the conflict in Jefferson County, State of West Virginia, the United States and the world's disruptions; I am glad I can sit back and watch the governments destroy themselves.

"The public reserves the right to call out the public officials to follow the required laws to ensure the constitutional rights of the public. The Governor hos ordered the Government to be "open for business" and not deprived the public of notice and comments that would violate ethic provisions.

It is hard to be safe, with the current County Commission.

Have a nice day!

Jessica Carroll

From: Robert Aitcheson <bob.aitch46@gmail.com>
Sent: Thursday, January 11, 2024 6:00 PM
To: Jessica James
Subject: Re: Political Party Distinctions in Jefferson County Are Meaningless!

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or on clicking links from unknown senders.
Jessica,

Reference is made to my email requesting to be put on the next County Commission agenda. I need to know as soon as possible when that will be.

Thank you very much. Respectfully,
Bob Aitcheson

On Mon, Jan 8, 2024 at 6:33 PM Robert Aitcheson <bob.aitch46@gmail.com> wrote:
Jessica,

I request to be put on the agenda for the next County Commission meeting. The enclosed is in part the subject matter of my presentation.

Thank you. Respectfully,
Bob Aitcheson

---------- Forwarded message ---------
From: **Robert Aitcheson** <bob.aitch46@gmail.com>
Date: Thu, Jan 4, 2024 at 1:54 PM
Subject: Political Party Distinctions in Jefferson County Are Meaningless!
To: Anne Dungan <annedungan@hotmail.com>, Elliot Simon <esimon779@gmail.com>, Jacki Shadle <jacki.shadle66@gmail.com>, Jane Tabb <Vinemont.farm@gmail.com>, Jean Jacobs <jmikejean@aol.com>, Jennifer Krouse <jcckrouse@gmail.com>, Jill Upson <upson4wv@gmail.com>, Melodie Williams <4unet1@comcast.net>, Steve Stolipher <stolipherjcc@gmail.com>, Steven Roberts <sroberts37@hotmail.com>, Toni Milbourne <ttpams@comcast.net>, Tricia Jackson <commissioner.triciajackson@gmail.com>, <pmajdi@jeffersoncoutywv.org>, <rayregsmith@gmail.com>, <riley.moore29@gmail.com>

In what follows, where opinions are stated, they are solely the opinions of the author exercising what's left of his rights under the First Amendment of the US Constitution and Article III of the West Virginia Constitution.

It is disgusting to the point of being physically nauseating that, with few exceptions (and we know who they are) in Jefferson County as in our national politics, the Republican Party has been infiltrated and taken over by leftists, not traditional liberal Democrats, but flat out leftists and their uninformed or worse, virtue signalers, who follow them like sheep. Here, as in too many other places in this country, the labels, Democrat and Republican, don't work any more!

The Jefferson County Republican Executive Committee (JCREC) is no exception. Unfortunately for Jefferson County, there is a small minority of principled conservatives on the JCREC. The rest are being led around by, again, a minority concerned only with money and power (their own). There could be no clearer example to illustrate this crisis level problem than the recent alleged "selection" in its secret vote for three candidates from whicb to fill a vacancy on the County Commission.

Jefferson County is being invaded and destroyed by companies using some Federal taxpayer funds via tax credits and outright subsidies, to install 8-10,000 acres of solar panels on our farmland, the best in our State according to the USDA soils analysis. (Two courageous County
Commissioners have tried to stem the tide only to be met with lawfare by the money and power crowd, but that's a whole separate story in itself).

So who did we end up with as the fifth commissioner!

Look at the website at the place where he works to find out: Conservation International, a globalist, leftist organization espousing the 1992 UN Framework Convention on Climate Change (COP 28 Policy) and the Paris Agreement. There you will find such quotes as:

"CI helps countries achieve the goals of the Paris Agreement."

CI goals:

"Galvanize ambitious climate action … by halting and reversing nature loss [undefined, of course] by 2030, while RAPIDLY PHASING OUT FOSSIL FUELS." (Emphasis added.)

"Encourage parties to include specific targets, policies and actions … to mitigate and address the consequences of CLIMATE CHANGE." (Emphasis added.)

And they even get some of their funding from US taxpayers for this giant scam!

This guy who was promoted by the JCREC and ultimately selected through a highly questionable process of elimination, works for this outfit as Vice President of Government Policy and Strategy. In other words, he's a lobbyist, maybe even the head lobbyist for the outfit in DC!

This is who we now have in the seat of power in Jefferson County who just green lighted Stolipher's (retirement) policy to reinstate the Solar Text Amendment to allow the other six industrial solar compounds (4 are already in various stages) coming soon to blanket our County, ostensibly (except at night and on cloudy days) to serve a new data center in Northern Virginia.

He claims to be a "Conservative Conservationist" , but, in reality, he is a leftist opportunist and a phony. He's about as conservative as the toe nail on your little toe!

You watch and mark the date you read this, the next thing coming down the pike will be these California and Colorado companies coming to our County Commission wanting PILOT Agreements (Payment In Lieu Of Taxes) to pay about 40% of what they should pay at their normal commercial rates. They're not satisfied to take from us Federal taxpayers, they want to get it from us again!

You watch what the so-called Republicans have done to us when this comes up for Madji's vote in the County Commission. He'll vote for it! Mark my words! Ask yourself, will he consider the consequences to our County when, in three years, these solar panels are obsolete & we'll have to find a toxic dump to put them in?

The JCREC is a disgrace and makes me ashamed to, though very temporarily, be a registered Republican!

Bob Aitcheson

PS. Place this in the record of the next JCC and JCREC meetings.