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GOVERNOR

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

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COMMISSIONER

KENTUCKY DIVISION OF WATER
WELLHEAD PROTECTION PLAN
5-YEAR UPDATE FORM

Update Requirements:

This form should be used for the 5-year update submittal requirements of the Kentucky Wellhead Protection Program (WHPP) in compliance with 401 KAR 4:220 and SDWA Section 1428. Once the form is complete, please sign and send to:

Kentucky Division of Water
Watershed Management Branch
Attention: Dale Booth
300 Sower Boulevard, 3rd Floor
Frankfort, Kentucky 40601 or dale.booth@ky.gov

For assistance, contact Dale Booth at (502) 782-6895 or dale.booth@ky.gov

System Information:

PWS Name: **Hardin County Water District #2, White Mills Water Treatment Complex**

PWS ID Number: **KY0470175**

AI Number: **1674**

Contact Person/Title: **John Cruse/Plant Manager**

Mailing Address: **P.O. Box 970, 1951 W. Park Rd. Elizabethtown, Ky 42702**

Telephone: **(270) 862-3213** Email: **jcruse@hcwd2.org**

System Type*: **Community**

*Community; Non-Transient/Non-Community; Transient/Non-Community

Source*: **Nolin River at White Mills Springs** *Well(s) or Spring(s) and total number of each

AKGWA # (s): **90001064**

County: **Hardin**

ADD: **Lincoln Trail ADD**

WWD Permit #: **1125** Permitted Amount (mgd): **8.1 MGD**

Population Served: **Residential: 83,861; Wholesale: 30,529**

Overall Susceptibility Rating*: **High** *High, Medium or Low

WHPP Changes Summary: **Hardin County Water District #2 withdraws its source water from the Nolin River at White Mills Spring where it flows into the Nolin River from the Ste. Genevieve Limestone Formation within the Karst terrain of the Mississippian Plateau or Pennyroyal Region in Kentucky. Over the last 5 years, average daily water withdrawals have been 5.859 MGD (2020-2024) under Permit #1125. The White Mills WHPA includes approximately 5,158 acres and is dominated by deciduous and mixed forest, pasture/hay, and cultivated crops land use. The contaminant source inventory indicates 27 potential types of contaminant sources within the WHPA including predominantly septic systems and transportation routes. The most likely scenarios that could threaten the water supply are potential spills from transportation routes that intersect the WHPA or agricultural land use. The overall susceptibility rating of the WHPA is high. Hardin County Water District #2 management strategies include annual education and outreach via Consumer Confidence Reports (CCR) and Groundwater Protection Week Campaigns, and the development of Groundwater Protection Plans (GPPs) and Agriculture Water Quality Plans for all activities that have the potential to pollute groundwater.**

Update Form Instructions:

Please complete each section that applies to any system or WHPP updates and submit the supporting documentation. Please indicate if a section is not applicable to this update. **Sections 4 and 6 through 11 are required for every 5-year update.**

Please sign certification on the last page upon completion.

Section Updates:

Section 1: Treatment Plant

If the treatment plant location has changed then provide a new location map below. This can be a county roadmap or a GIS-produced map. Please use the area below to provide relevant details, or to indicate that no change has occurred.

The White Mills Water Treatment Complex remains located at 1300 Cave Rd, Glendale, KY 42740

Section 2: Water Withdrawal and Water Quality

If there have been changes in water withdrawal rates or water quality since the last submittal, provide a discussion of the relevant details in the space below (include new Water Withdrawal Permit Number if applicable). Include supporting documentation as an attachment.

Daily average water withdrawals for the White Mills Water Treatment Complex over the last 5 years (2020-2024), average monthly water withdrawals have varied from 4.248 to 7.129 MGD with maximum monthly withdrawals varying from 6.495 to 7.129 MGD. The 2003 Phase I WHPP reported average withdrawals of over 4.4 MGD with 41,900 customers and 12,700

service connections. Hardin County Water District #2 initiated water withdrawals from the Nolin River at White Mills Springs in September of 1990 when average daily withdrawals were 0.500 MGD. By 1995, water withdrawals were reported to be 1.8 MGD and have continued to increase annually. So average daily water withdrawals from the spring have increased by more than 10 times over the last 35 years. In 2023, Water Withdrawal Permit #1125 was amended to increase permitted rates to 8.1 MGD from last permitted rates of 5.0-6.0 MGD in 2005. The population of Hardin County is projected to increase through 2050 in addition to growth in the Glendale plant area, which is served by Hardin County Water District #2, so production demands are expected to continue to increase.

Since 2017, Hardin County Water District #2 began purchasing water from the Louisville Water Company and regularly sells water to Hardin County Water District #1. Production is expected to increase to an average of 6.18 to 6.54 MGD range over the next 5 years excluding higher service demands. Hardin County Water District #2 withdraws water from White Mills Spring where it discharges from the Ste. Genevieve Limestone Formation along the bank of the Nolin River, River Mile 80.4. White Mills Spring is a major limestone spring in a very highly developed karst area of central Kentucky with estimated flow rates of 1.8 to 9.9 MGD, and high flow rate of 43.2 MGD. An estimated 20-30% of the spring flow is influenced by the Nolin River due to the presence of a swallet in the bank 2,400 feet to the east.

Hardin County Water District #2 lies within the Mississippian Plateau or Pennyroyal Region which consists of a limestone plain characterized by tens of thousands of sink holes, sinking streams, streamless valleys, springs, and caverns. This karst terrain of the Mississippian Plateau occurs because the bedrock in the eastern and southern parts of the region is dominated by thick deposits of Mississippian-age limestones. These limestones are soluble under the right conditions, which means they can easily be eroded by waters moving through the ground. The karst dominated Mississippian Plateau, with closer connections to surface influences, has shown increasing trends for metal analytes, pH, and conductivity especially from in spring stations in the physiographic region (Report on the Condition of Ambient Groundwater in Kentucky 2018). The Mississippian Plateau physiographic region is also having significant downward trends for nitrite and sulfates.

Section 3: Change or Modification to Groundwater Source

If the system has changed or modified the wells or springs being used, provide the following: 1) a description of changes/modifications; 2) copies of the relevant form(s) (Kentucky Water Well Record, Well Maintenance & Plugging Record, Well Inspection Form or Spring Inventory Record); and 3) any other information relating to well construction (i.e., installation logs, driller's logs, lithological or geophysical logs), below.

Hardin County Water District #2 has not changed or modified the source which is the Nolin River at White Mills Springs (AKGWA ID# 90001064)

Section 4 (REQUIRED): Planning Team

Effective water supply protection requires community involvement and public awareness. Identify the planning team consisting of a leader and at least two team members, with their respective titles, below.

Leader:

John Cruse, Water Plant Manager

Team Members:

Shaun Youravich, General Manager

Ryan Kynett, Water Quality Supervisor

Section 5: WHPA Delineation

If the system is revising a Wellhead Protection Area (WHPA) delineation, or if a new groundwater source has been added since the last submittal, provide a site-specific description of the local geology and aquifer. Include references for published literature. Provide a summary of any aquifer tests (i.e. pumping tests, slug tests, tracer tests), including data gathering and evaluation methods. Show calculations and supporting data for each WHPA delineated or revised. Include the detailed hydrogeologic report as an attachment.

Hardin County Water District #2 WHPA has not been revised for this update and is composed of approximately 5,157.64 acres of mainly deciduous and mixed forest, crops, and pasture/hay for land cover. Due to the source being a spring, the entire WHPA is delineated as Zone 1.

Section 6 (REQUIRED): WHPA Map

Provide a WHPA map that shows each groundwater source labeled with the appropriate AKGWA #, all protection zones identified and the Contaminant Source Inventory (CSI) point locations. If no changes have occurred since the last submittal, then a copy of the most recent WHPA/CSI map can be resubmitted. To view the most recent delineations for your system, please visit the [Source Water Protection Viewer](#). Please contact program staff for assistance.

See attached WHPA Map.

Section 7 (REQUIRED): Contaminant Source Inventory

Provide an updated CSI in table format. This can be created using the spreadsheet template provided, and copied into the space below. If no changes occurred since the last update, the table can be pulled from previous WHPP documents. Each contaminant source listed should have a Contaminant Source ID # that corresponds to the WHPA map in Section 6. The CSI table must show the susceptibility determination ranking for each contaminant source. Include a brief narrative discussion of the overall system susceptibility. For more information on

potential sources of contamination, please visit the DOW's [Web Tools for SWP Planning website](#). Please contact program staff for assistance.

See attached CSI. Hardin County Water District #2 currently withdraws from a springshed that has a delineated protection area of approximately 5,158 acres of mostly forested and agricultural land use. There are 27 potential contaminant sources that have been inventoried within the WHPA which are predominantly septic systems and transportation routes (highways, railroads, and roads). The overall susceptibility rating is high.

Section 8 (REQUIRED): Management Strategies

Provide a discussion of the previous and newly proposed management strategies to prevent source water contamination. This discussion must include the previous management strategies that were implemented as well as the goals that were met. Next, include any NEWLY proposed management strategies, associated goals, implementation plans and the party responsible for implementation. For information about wellhead protection strategies please visit the DOW's [Source Water Protection Strategies website](#).

Previous Management Strategy Update:

Five WHPA signs were placed along roadways entering Zone 1 and the Hardin County Water District #2 regularly reviews and updates its Groundwater Protection Plan. In addition, the district promotes WHPA through education and outreach initiatives including their annual Consumer Confidence Reports and Groundwater Protection Week Campaign. The water district will continue to report any illegal dumping or spills to the regional office.

Newly Proposed Management Strategies:

In 2023, Hardin County Water District #2 participated in the Source Water Protection Assistance Program (SWPAP) grant program to fund a project to properly abandon an old well within their WHPA. The old well was original to the property when purchased by the district and was determined to be a potential direct conduit and risk to the nearby karst spring in addition to human safety. Hardin County Water District #2 is a high-risk karst spring community water which made abandonment of this well a high priority. Hardin County Water District #2 will assist landowners and residents within the WHPA to develop and implement Groundwater Protection Plans especially focusing on septic systems and underground storage tanks. The water district will also assist local farmers with state-required agriculture water quality plans which are developed to protect surface and groundwater by implementing Best Management Practices (BMPs), which can improve efficiency and profitability.

Section 9 (REQUIRED): Contingency and WHP Planning

Provide a description of Contingency and WHP Planning. Complete the Emergency Response Phone List, Procedures for Public Notification, identification of Potential Future Problems and the procedures to establish Alternative Water Supplies. This section must also address how

often the WHPP will be reviewed and updated.

Emergency Response Phone List

Fill in all Blanks and Phone Numbers with appropriate information.

Local Emergency Response	Phone Number
Plant Operator	(270) 862-3213
White Mills Fire Department	(270) 765-2900
Kentucky State Police - Post 4	(270) 766-5078
Hardin County Sheriff's Office	(270) 765-5133
Local Emergency Dispatch Hardin County E911	911 or (270) 737-5669

State and Federal Assistance	Phone Number
Kentucky DOW (Frankfort)	(502) 564-3410
Kentucky DOW Associated Field Office (FO) Louisville Regional Office	(502) 429-7122
Kentucky Environmental Response Team 24 hour response line	(502) 564-2380 (800) 928-2380
Kentucky State Fire Marshall	(502) 573-0382

Any Other Pertinent Contacts	Any Other Pertinent Numbers
Hardin County Health Department	(270) 765-6196
Lincoln Trail Area Development District	(270) 769-2393
Kentucky Rural Water Association	(270) 843-2291

Procedures for Public Notification:

In the event of a water system emergency that would threaten the health or life of the public, use the following procedure. Prepare and broadcast an advisory, including directions for the public. Describe the public notification process and provide contacts for those media outlets. If the system uses methods other than traditional media please list them.

In the event of a water system emergency that could threaten public health, the district would notify its customers via its website, Facebook, local television, and/or radio.

Newspaper, Television, and Radio Stations	Phone Numbers
Quicksie WQXE 98.3	(270) 737-8000
WAVE https://www.wave3.com/	(502) 585-2201

Potential Future Problems:

Describe the *most likely* scenarios that could threaten the water supply.

The most likely scenarios that could threaten the water supply are potential spills from transportation routes that intersect the WHPA or agricultural land use.

Alternative Water Supply (Short and Long Term):

Describe the short term and long-term water supply alternatives that address each of the potential future problems identified above. List all current interconnections with other water systems. Discuss the capacity of each potential alternative water supply to sustain normal operations.

Short-term contingency plans include a boil water notification, encouraging conservation practices, and/or purchasing water from interconnection with other public water systems. Hardin County Water District #2 has interconnections with neighboring Hardin County Water District #1, Larue County Water District, Grayson County Water District, Hodgenville Water Works, and Louisville Water Company. Long-term contingency plans would include modification to the treatment process or the consideration of another source of water.

Schedule for Update and Review:

The Wellhead Protection Plan will be reviewed regularly and updated every five years as required by regulation.

Section 10 (REQUIRED): Copies of Public Notices and Education Materials

Provide copies of wellhead protection public notices and education materials distributed.

A copy of this plan will be posted on the Hardin County Water District #2 webpage and a link to plan will be printed on customer bills for public notice. A copy will be provided in the attachments for documentation.

Section 11 (REQUIRED): Public Meeting Documentation***

Provide the record of WHPP public meeting attendance, minutes and comments.

A copy of this plan will be posted on the Hardin County Water District #2 webpage and a link to plan will be printed on customer bills for public notice. A copy will be provided in the attachments for documentation.

***Non-Community Water Systems are not required to have public meetings for 5-year updates, but must post a public notice in a conspicuous place. A public notice template is provided as a separate document. However, public input and associated documentation are encouraged. Please contact program staff if you have any questions.

Certification Signature (TO BE COMPLETED BY PLANNING REPRESENTATIVE):

"I certify that this document and all attachments were prepared under my direction or supervision. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete."

Signature:  Date: 08/18/2026

Printed Name/Title: John Cruse/Water Plant Manager

Assistance:

For any assistance, please contact Wellhead Protection Staff:

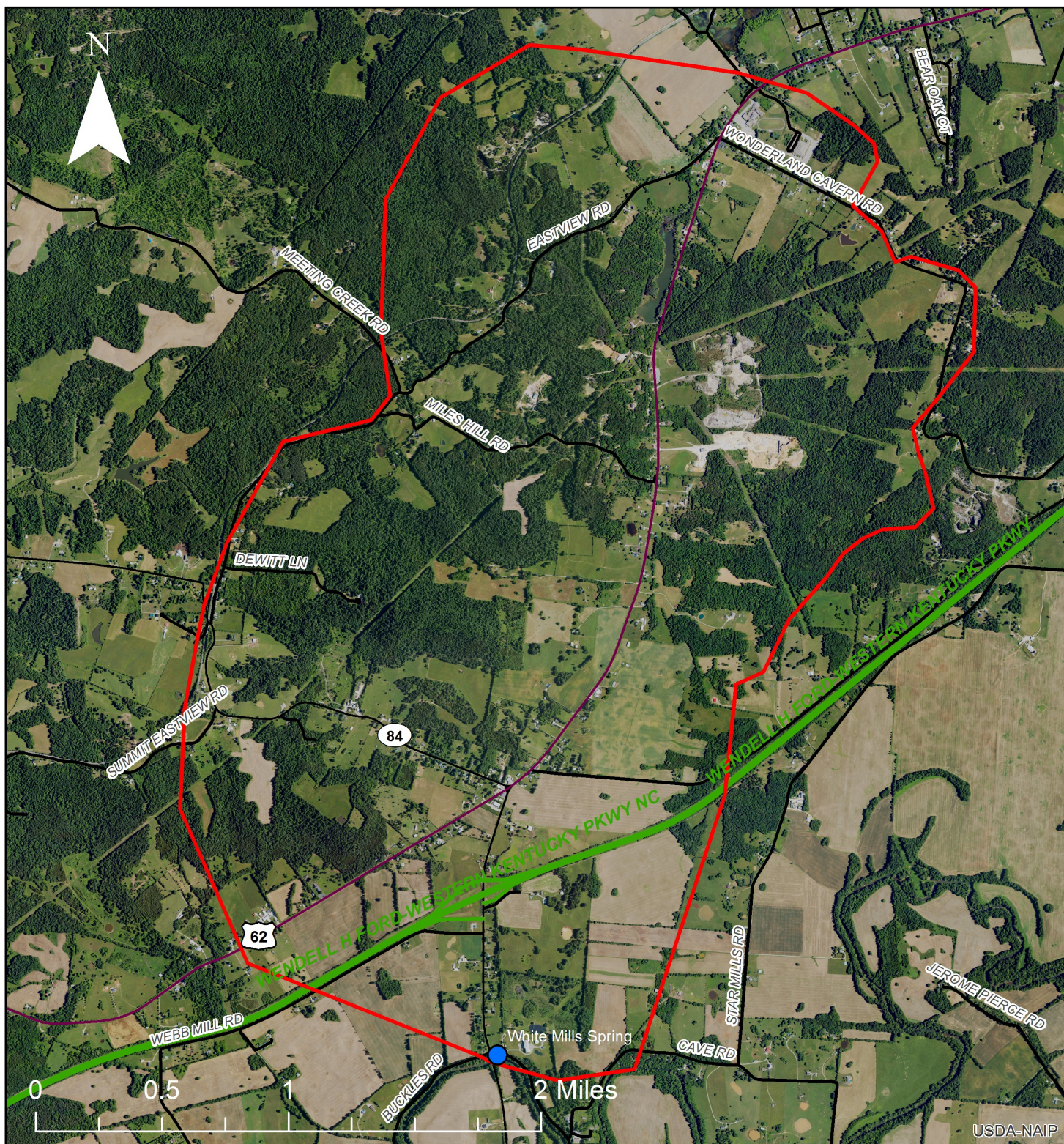
Dale Booth
(502) 782-6895
Dale.Booth@ky.gov

Allan Shingleton
(502) 782-6907
Allan.Shingleton@ky.gov

Please sign and return completed form to:

Kentucky Division of Water
Watershed Management Branch
Attention: Chip Zimmer
300 Sower Boulevard, 3rd Floor
Frankfort, Kentucky 40601
or Dale.Booth@ky.gov

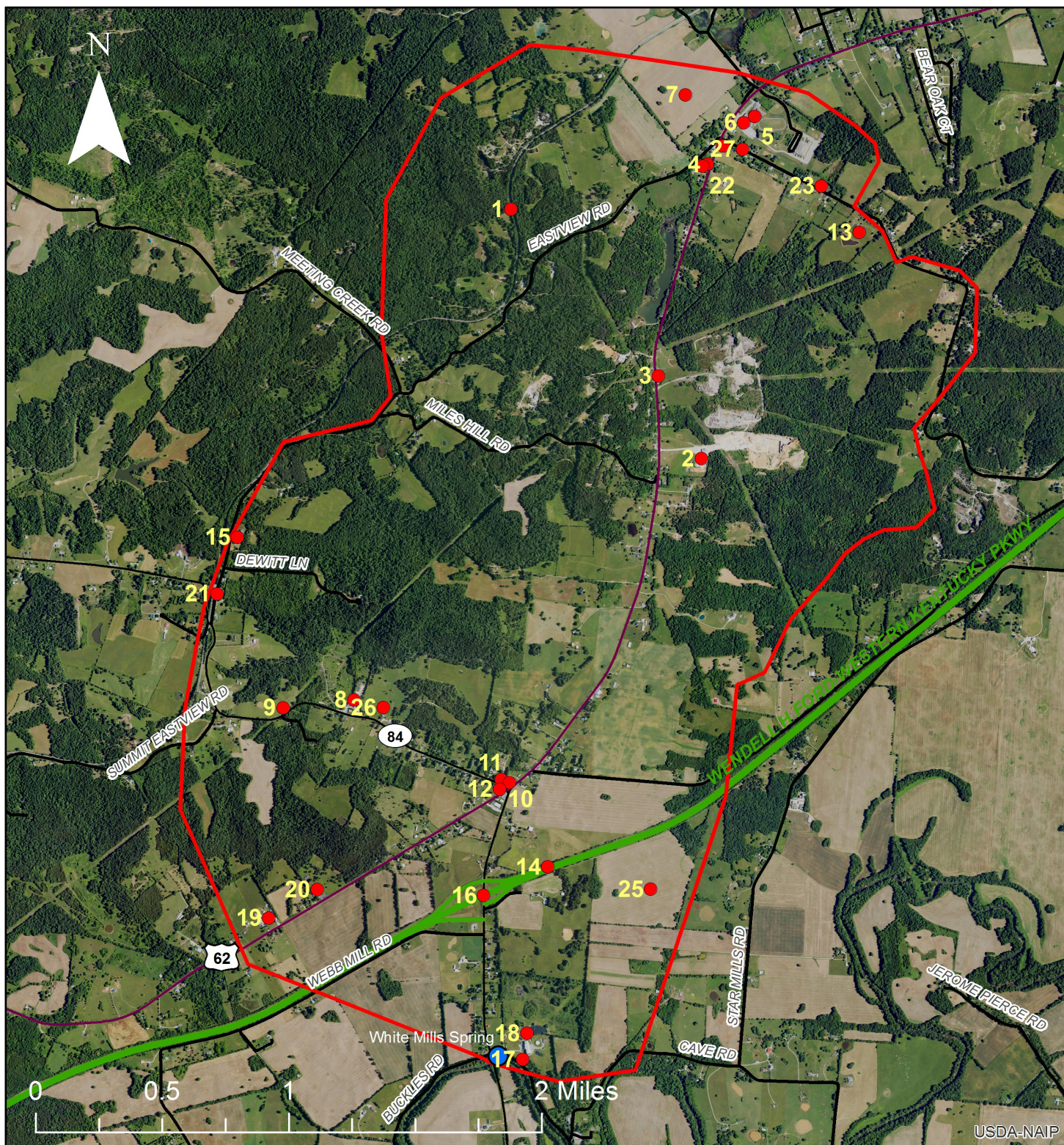
Section 6: WHPA Map



WHPA Map

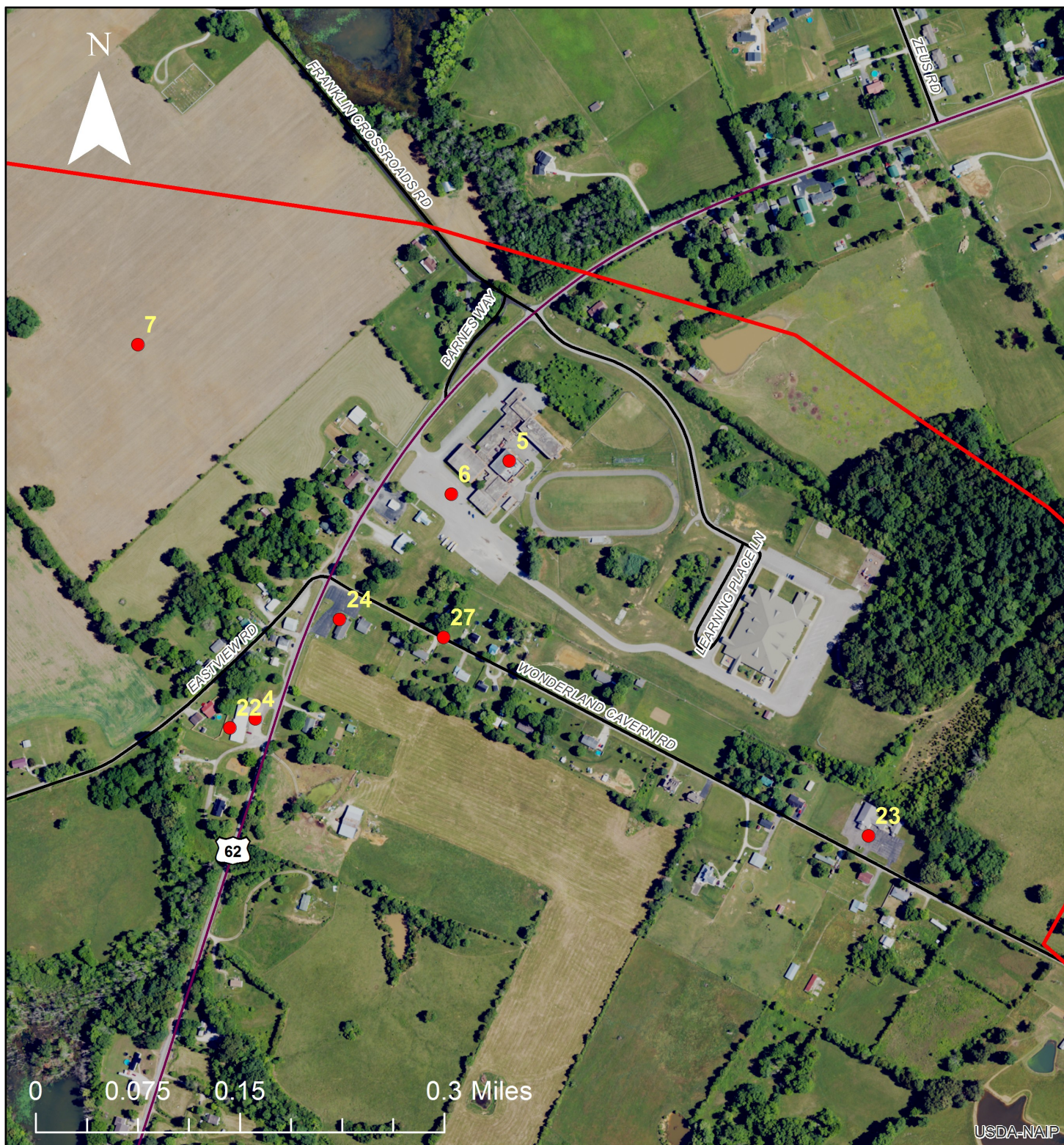
- White Mills Spring
- Zone 1: 180 Day time of travel for potential contaminant
- Zone 2: 10 year time of travel
- Zone 3: Hydrologic Boundary

Section 7: Contaminant Source Inventory



Contaminant Source Inventory

- Potential Contaminants
- White Mills Spring
- Zone 1: 180 Day time of travel for potential contaminant
- Zone 2: 10 year time of travel
- Zone 3: Hydrologic Boundary



Contaminant Source Inventory

- Potential Contaminants
- White Mills Spring
- Zone 1: 180 Day time of travel for potential contaminant
- Zone 2: 10 year time of travel
- Zone 3: Hydrologic Boundary

Contaminant Source Inventory and Susceptibility Analysis for

Hardin County Water District #2-White Mills/KY0470175

Instructions (section may be deleted on submission):

Use the following table to list and rank potential contaminants identified during the contaminant source inventory.

Include Lat/Lon or addresses when possible. Enter the WHPA in which the contaminant occurs.

Multiple, similar sources that are clustered can be listed once with the Quantity identified.

The Proximity Ranking is based on the WHPA in which the contaminant is located (WHPA 1=3; WHPA 2=2; WHPA 3=1).

Contaminant Value is on a 1-3 scale, based upon its potential threat; consult the Contaminant Source Types_Values guide.

Hydrologic Sensitivity: The physical, chemical, geological, hydrological, and biological characteristics of the area over which, or through which, the contaminants move to the aquifer have various capabilities to detain or attenuate contaminant releases. Consult the Hydrologic Sensitivity tab.

The spreadsheet will use the values entered to calculate the Numeric Rating for each contaminant source.

- $\text{Numeric Rating} = (\text{Proximity Value} \times 2) + (\text{Contaminant Value} \times 3) + (\text{Hydrologic Sensitivity Value})$

This will determine the Susceptibility Ranking: Numeric Rating less than 10 = Low; 10-15 = Medium; greater than 15 = High.

Please contact SWP/WHPP staff if you have any questions.

Contact:

Dale Booth; Dale.booth@ky.gov; 502-782-6895

Ryan Parks; Ryan.parks@ky.gov; 502-7824039

CSI Map ID #	Site ID	Contaminant Source Type	CS CODE	Name	Address	Lat	Lon	Quantity	Zone	Proximity Value	Contaminant Value	Hydrologic Sensitivity	Numeric Rating	Susceptibility Ranking	Contaminant Notes
1		Railroad Lines	C-32	Railroad	HWY 62	37.6108	-86.036	1	1	3	3	3	18	HIGH	
2		Gravel Pits and Quarries	I-6	Mink Bro's Quarry	11889 Leitchfield Rd, Cecilia, KY 42724	37.5965	-86.022	5	1	3	3	3	18	HIGH	
3		Electric Substations	I-3	East Kentucky Power Cooperative Stephensburg Substation	11617 Leitchfield Rd, Cecilia, KY 42724	37.6013	-86.025	1	1	3	2	3	15	MED	
4		Gas stations (existing & abandoned/historic)	C-16	Spencers Valu-Mart	10772 Leitchfield Rd, Cecilia, KY 42724	37.6134	-86.021	3	1	3	3	3	18	HIGH	Abandoned
5		Schools	M-12	West Hardin Middle School	10471 Leitchfield Rd, Cecilia, KY 42724	37.6162	-86.018	2	1	3	3	3	18	HIGH	
6		Schools	M-12	Lakewood Elementary School	265 Learning Pl Ln, Cecilia, KY 42724	37.6158	-86.019	1	1	3	3	3	18	HIGH	
7		Crops : Corn, Soybean, Wheat	A-5	Cultivated crops		37.6174	-86.023	1	1	3	3	3	18	HIGH	
8		Junk Yards (Scrap and Auto)	C-22	84 Auto Recyclers	12208 Sonora Hardin Springs Rd, Eastview, KY 42732	37.5826	-86.047	1	1	3	3	3	18	HIGH	
9		Electric Substations	I-3	Kentucky Utilities Eastwood Substation	12540 Sonora Hardin Springs Rd, Eastview, KY 42732	37.5822	-86.052	1	1	3	2	3	15	MED	
10		Junk Yards (Scrap and Auto)	C-22	Junk Yard	Cox Machine Shop, HWY 84	37.5781	-86.036	1	1	3	3	3	18	HIGH	

11		Gas stations (existing & abandoned/ historic)	C-16	BP/Eastview Food Mart	13420 Leitchfield Rd, Eastview, KY 42732	37.5779	-86.036	4	1	3	3	3	18	HIGH	
12		Gas stations (existing & abandoned/ historic)	C-16	4 Corners Grocery	11545 Sonora Hardin Springs Rd, Eastview, KY 42732	37.5776	-86.036	4	1	3	3	3	18	HIGH	
13		Residential Septic	R-4	Septic sytems	Protection area	37.6095	-86.011	300	1	3	3	3	18	HIGH	
14		Major Roadways	M-7	Wendell H Ford Western Kentucky Parkway		37.5731	-86.033	1	1	3	3	3	18	HIGH	
15		Other Industrial Sources	I-16	Cutters Ridge Meat Processing	2667 Eastview Rd, Eastview, KY 42732	37.592	-86.055	1	1	3	3	3	18	HIGH	
16		Bridges and Culverts	M-1	Bridge	HWY 84	37.5715	-86.037	1	1	3	3	3	18	HIGH	
17		Drinking Water Treatment Plants	M-3	HCWD #2 WTP KPDES	1215 Cave Rd, Glendale, KY 42740	37.5621	-86.035	1	1	2	3	3	16	HIGH	
18		Other Waste Disposal Sources	W-8	HCWD #2 landfill sludge	1215 Cave Rd, Glendale, KY 42740	37.5636	-86.034	1	1	3	3	3	18	HIGH	
19		Class V UIC Wells	G-6	Joyce Furniture and Appliance	14502 Leitchfield Rd, Eastview, KY 42732	37.5701	-86.053	1	1	2	3	3	16	HIGH	
20		Class V UIC Wells	G-6	Highway of Holiness Church	HWY 62	37.5718	-86.049	1	1	2	3	3	16	HIGH	
21		Class V UIC Wells	G-6	Eastview Post Office	2885 Eastview Rd, Eastview, KY 42732	37.5887	-86.057	1	1	2	3	3	16	HIGH	
22		Class V UIC Wells	G-6	Spencers Value Market	10772 Leitchfield Rd, Cecilia, KY 42724	37.6133	-86.022	1	1	2	3	3	16	HIGH	Abandoned
23		Class V UIC Wells	G-6	Unity Baptist Chapel	440 Wonderland Cavern Rd, Cecilia, KY 42724	37.6122	-86.013	1	1	2	3	3	16	HIGH	
24		Class V UIC Wells	G-6	Stephensburg Missionary Baptist Church	10665 Leitchfield Rd, Cecilia, KY 42724	37.6145	-86.02	1	1	3	2	3	15	MED	

25		Crops : Corn, Soybean, Wheat	A-5	Cultivated crops		37.5719	-86.025	1	1	3	3	3	18	HIGH	
26	AKGWA# C	Domestic Wells	G-7	Residence - Robert Bruces		37.5822	-86.045	1	1	3	2	3	15	MED	
27	AKGWA# C	Domestic Wells	G-7	Residence - Cynthia Rummel		37.6143	-86.019	1	1	3	2	3	15	MED	

CSI Totals	Low	0
	Med	4
	High	335

Overall Susceptibility Ranking	High
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Section 10 & 11: Public Notice Documentation