



Andy Beshear
GOVERNOR

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

300 Sower Boulevard
Frankfort, Kentucky 406 01
Phone: (502) 564 -2150
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John Lyons
SECRETARY

Amanda LeFevre
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: **Bluegrass Water UOC – Center Ridge Water District #3**

PWS ID Number: **KY0180502** AI Number: **33824**

Contact Person/Title: **Joe Johnson – EHS Compliance Coordinator**

Mailing Address: **655 Maryville Centre Dr. Ste. 200, St. Louis, MO 63141**

Telephone: **314-380-9498** Email: **JJohnson@CSWRGroup.com**

System Type*: **Community PWS**

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

Source*: **Wells (3)** *Well(s) or Spring(s) and total number of each

AKGWA #(s): **Active 0003-3974, 0003-3975; 1 Inactive 0005-3481**

County: **Calloway** ADD: **Purchase**

WWD Permit #: **1798** Permitted Amount (mgd): **0.03 MGD**

Population Served: **165**

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

WHPP Changes Summary: **See Sections 2, 4, and 8-11.**

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.

No Change. See Attachment 1 for Facility Map.

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.

A Water Withdrawal Permit was acquired in 2025. Please see attached Permit. Attachment #2

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.

No change. See Attachment #3 for Historical Well Inspections.

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:

Joe Johnson – EHS Compliance Coordinator

Team Members:

Jo Anna Brown – CSWR Vice President

Chris Carroll – Operations Area Manager

See Attachment #4 for Planning Team Tree of Management

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.

No Change. See Attachment #5 for WHPA Delineation Table.

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.

No Change. See Attachment #6 for 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.

No Change. See Attachment #7 for CSI List & Map.

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:

Please see Attachment #8 for Management Strategies

Newly Proposed Management Strategies:

Please see Attachment #8 for Management Strategies

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: Nikki Chambers	(270) 305-2860
Murray – Calloway Fire and Rescue	(270) 753-4112
Calloway Co. Sheriff's Office	(270) 753-2151

Calloway Health Dept.	(270) 753-3381
Local Emergency Dispatch KY Environmental Response Team	(502) 564-2380

State and Federal Assistance	Phone Number
Kentucky DOW (Frankfort)	(502) 564-3410
Kentucky DOW Associated Field Office (FO) Paducah	(270) 898-8468
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
Bluegrass Water UOC Customer Service	(866) 752-8982
Click here to enter text.	PHONE NUMBER
Click here to enter text.	PHONE NUMBER

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 would threaten the health or life of the public, use the following procedure. Provide JoAnna Brown, Joe Johnson, and Chris Carroll a summary of the issue including time of onset, if the KyDOW was notified, and if the County Health Department was notified. CSWR Customer Communications Department will draft public notifications and directions for customers which will be provided to customers on the Bluegrass Water UOC website, facebook, by email, and/or by direct handout via the operator. CSWR will coordinate with Joe Johnson to communicate with appropriate regulatory authority as needed. If additional notification is needed use the local newspaper as directed.

Potential Future Problems:

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

The most common scenario that could threaten the water supply is bacteriological and/or chemical contamination from a leaking septic system.

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.

Bacteriological contamination is mitigated by disinfecting the water system. If there were indicators of bacteriological contamination in the drinking water the facility would be placed on a boil water advisory until the problem is eliminated. If chemical contamination (such as nitrate/nitrite) is discovered in the water the facility would be placed on a do not drink advisory until the source of contamination was discovered and eliminated. If a long-term solution is needed, the facility would add centralized/localized treatment to eliminate the issue. As needed, water could be hauled in for use during these events.

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.

See Attachment #9 for Education Materials and Public Notices.

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

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

See Attachment #10 for Public Meeting 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: Joe Johnson Date: 09/03/2026

Printed Name/Title: Joe Johnson - EHS Compliance Coordinator

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: Dale Booth
300 Sower Boulevard, 3rd Floor
Frankfort, Kentucky 40601
or Dale.Booth@ky.gov

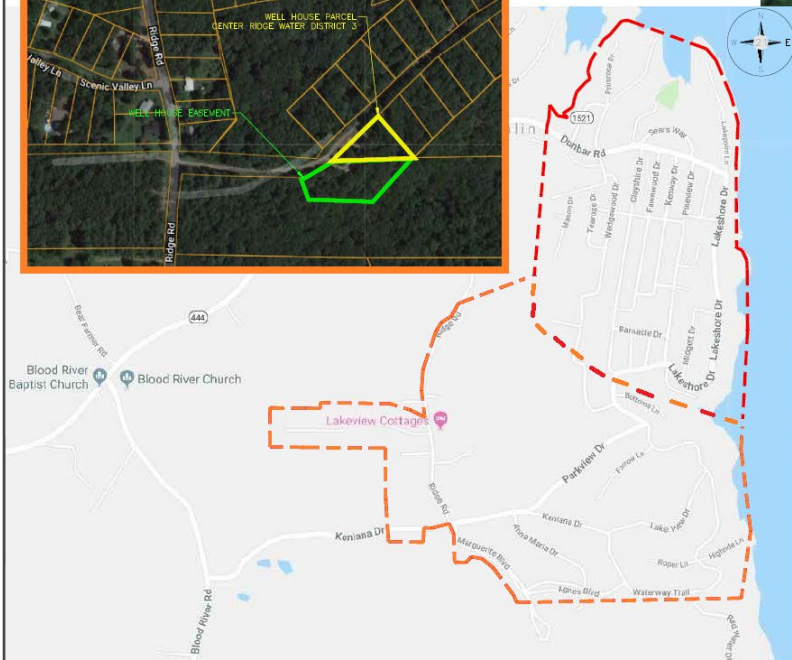
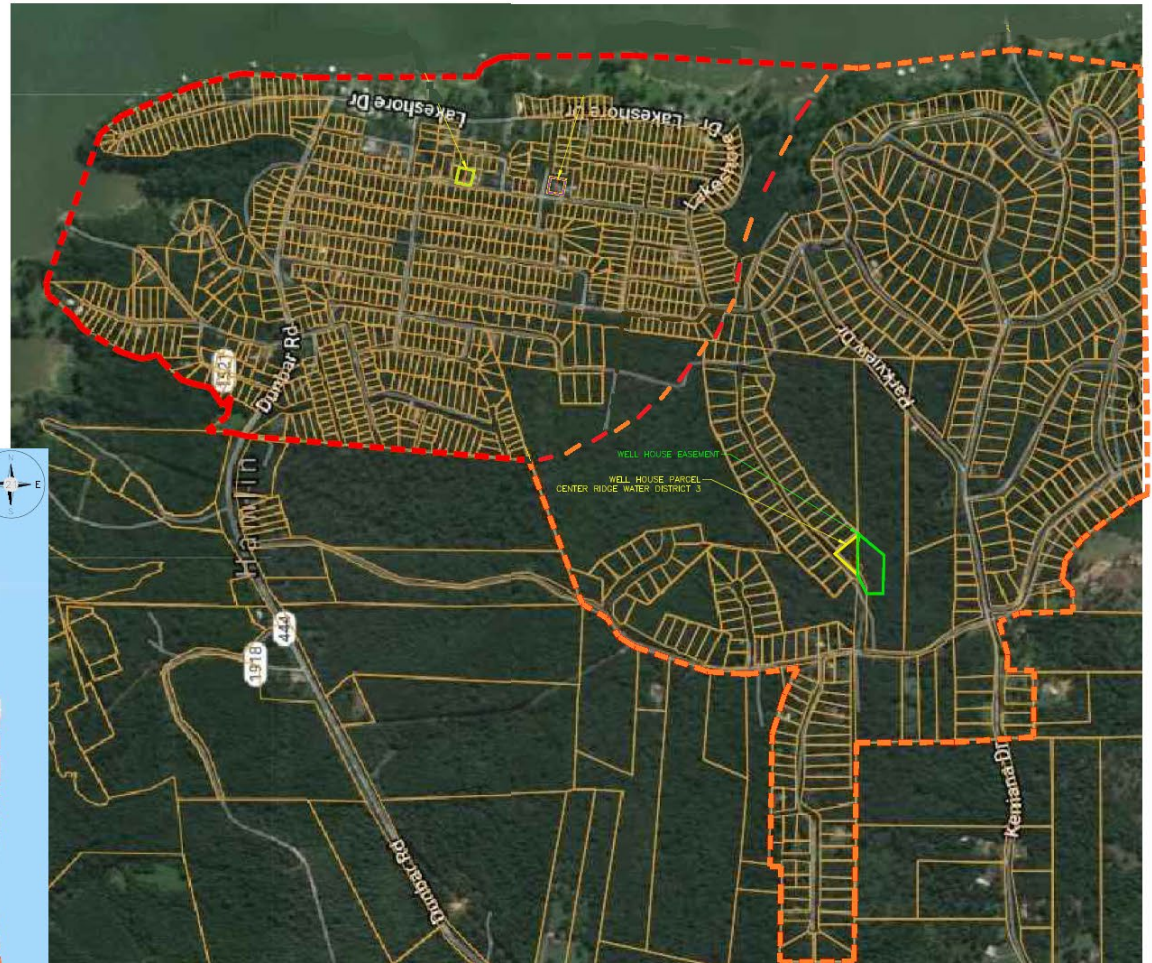
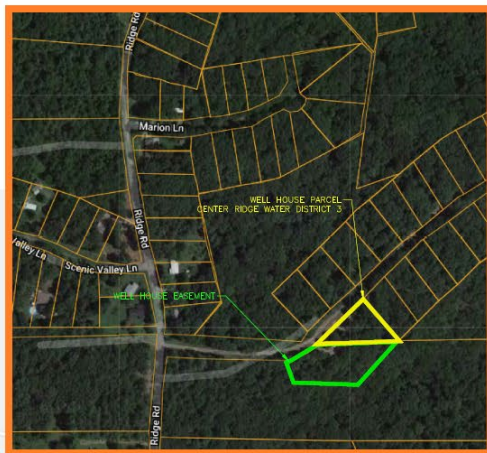
Attachment 1

Service Area of Center Ridge Water District #3



Legend

- CRWD #2 Service area
- Well #1
- Well #2
- CRWD #3 Service area
- Well #1 & #2
- Easement



Utility Note Disclaimer:

The utilities shown hereon are depicted based on the original design plans provided by the system manager. 21 Design Group, Inc. performed no field verification of the layout and are unable to determine the exact location at this time. The location represents approximate location only and should not be construed as being 100% accurate. It is shown to provide general layout of the system only and should not be used to interpret encroachments.

DATE	DESCRIPTION
01/11/20	001-1-10
01/11/20	01-1
01/11/20	01-1
01/11/20	01-1
01/11/20	01-1





Andy Beshear
GOVERNOR

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

300 Sower Boulevard
Frankfort, Kentucky 40601
Phone: (502) 564-2150
Fax: 502-564-4245

Rebecca W. Goodman
SECRETARY

Anthony R. Hatton
COMMISSIONER

October 20, 2025

Joe Johnson
Center Ridge Water District 3
1630 Des Peres Rd Ste 140
Des Peres, MO 63131

RE: Standard Water Withdrawal Permit
AI #: 33824
Activity ID: APE20240001
Well 001 (AKGWA #: 0003-3974)
Calloway County, Kentucky
Water Withdrawal Permit No.: #1798

Joe Johnson:

Thank you for your application for a new water withdrawal permit #1798. This letter accompanies permit #1798 which authorizes withdrawals from Well 001 (AKGWA#: 0003-3974) in Calloway County with geographic coordinates: 36.585556, -88.0761111.

In accordance with this permit, water withdrawals are limited to the following rates from the specified location:

Jan. <=0.03 million gallons per day (MGD)	April <=0.03 million gallons per day (MGD)	July <=0.03 million gallons per day (MGD)	Oct. <=0.03 million gallons per day (MGD)
Feb. <=0.03 million gallons per day (MGD)	May <=0.03 million gallons per day (MGD)	Aug. <=0.03 million gallons per day (MGD)	Nov. <=0.03 million gallons per day (MGD)
March <=0.03 million gallons per day (MGD)	June <=0.03 million gallons per day (MGD)	Sept. <=0.03 million gallons per day (MGD)	Dec. <=0.03 million gallons per day (MGD)

Please refer to the enclosed permit which outlines all requirements, conditions and parameters associated with this withdrawal.

Issuance of this permit does not release the permittee from the responsibility of obtaining any other permits or licenses required by this Cabinet, or other state, federal, or local agencies. This permit represents a limited right of use and does not vest ownership nor an absolute right to withdraw or use the water.

Please feel free to contact Ryan Parks at 502-782-4039 or Ryan.Parks@ky.gov or Rita Hockensmith at 502-782-6975 or Rita.Hockensmith@ky.gov for any assistance.

Sincerely,

Joanna Ashford, Manager
Watershed Management Branch
Division of Water

Permit to Withdraw Public Water
Center Ridge Water District 3
Facility Requirements
Permit Number: 1798
Activity ID No.:APE20240001

Page 1 of 4

Limitation Requirements:

Condition No.	Item ID	Parameter	Condition
L-1	GACT1 (1798 Well)	Withdrawal	Water Withdrawal <= 0.03 million gallons per day (MGD) Daily maximum (MX) shall be allowed from the location specified in the Narrative Requirements below. [KRS 151.170] This requirement is applicable during the following months: All Year. Statistical basis: Daily maximum (MX).

Monitoring Requirements:

Condition No.	Item ID	Parameter	Condition
M-1	GACT1 (1798 Well)	Withdrawal	The permittee shall report Water Withdrawal monitored by meter or other approved method daily as described in the Narrative Requirements below. [401 KAR 4:010 Section 3, KRS 151.160] This requirement is applicable during the following months: All Year. Statistical basis: Daily maximum (MX).

Record-Keeping Requirements:

Withdrawal:

Condition No.	Item ID	Condition
R-1	GACT1 (1798 Well)	The permittee shall perform Withdrawal recordkeeping by reporting Water Withdrawals daily on forms supplied by the Cabinet. [401 KAR 4:010 Section 3, KRS 151.160]

Permit to Withdraw Public Water
Center Ridge Water District 3
Facility Requirements
Permit Number: 1798
Activity ID No.:APE20240001

Page 2 of 4

Submittal/Action Requirements:

Condition No.	Item ID	Condition
S-1	GACT1 (1798 Well)	The permittee shall submit water withdrawal reporting forms : Due monthly, by the 15th of the month. [401 KAR 4:010 Section 3, KRS 151.160]

Permit to Withdraw Public Water
Center Ridge Water District 3
Facility Requirements
Permit Number: 1798
Activity ID No.:APE20240001

Page 3 of 4

Narrative Requirements:

Condition No.	Item ID	Condition
T-1	GACT1 (1798 Well)	The Energy and Environment Cabinet authorizes the permittee to withdraw Public Water of the Commonwealth [KRS 151.120]. This permit has been issued under provisions of KRS Chapter 151.125, 151.140, 151.150, 151.160 and 151.170 and regulations 401 KAR 4:010, 401 KAR 4:031, and 401 KAR 4:200. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits or licenses required by this Cabinet, or other state, federal, or local agencies. Withdrawals are limited to the requirements, conditions and parameters outlined in this permit. This permit represents a limited right of use and does not vest ownership nor an absolute right to withdraw or use the water. Permits for the withdrawal, transfer, or diversion of public water may be amended upon application to the cabinet by the permittee, or by the cabinet when reports indicate that the permittee is using a substantially different amount than permitted. In times of drought or emergency, the Cabinet may temporarily alter the conditions of the permit. Any violation of the permit and statutes or regulations is subject to penalties and other applicable provisions of law. [KRS 151.]
T-2	GACT1 (1798 Well)	Monitoring equipment shall be calibrated annually according to the manufacturer's recommendations and a record kept to include date of calibration, calculations for percent error, and adjustments made either to the equipment or to the use of the data obtained from the equipment. Records shall be maintained and updated annually and shall be made available upon request for review by the Cabinet. [401 KAR 4:010 Section 3]
T-3	GACT1 (1798 Well)	Permits for the withdrawal, transfer, or diversion of public water may be amended at any time upon application to the cabinet by the permittee, or by the cabinet when the reports indicate that the permittee is using a substantially different amount than permitted. [KRS 151.170]
T-4	GACT1 (1798 Well)	The location of this authorized withdrawal is from Well 001 (AKGWA #: 003-3974) in Calloway County, with coordinates: 36.585556, -88.0761111. If there is any change in the location of the withdrawal site, you shall contact the Division and request a revision. [KRS 151.170]
T-5	GACT1 (1798 Well)	The permittee shall notify the Division whenever a Drought Management Phase is declared, beginning with the Advisory phase. [401 KAR 4:010 Section 3]
T-6	GACT1 (1798 Well)	As approved, the permittee shall monitor water withdrawals with a Badger meter that is 4 years old. If the monitoring method or meter is changed, the Division shall be notified. [401 KAR 4:010 Section 3]

Permit to Withdraw Public Water
Center Ridge Water District 3
Facility Requirements
Permit Number: 1798
Activity ID No.:APE20240001

Narrative Requirements:

Condition No.	Item ID	Condition
T-7	GACT1 (1798 Well)	Withdrawals shall not adversely impact water quality, or aquatic habitat or community. [KRS 151.170, 401 KAR 10:031, Section 4(c), 401 KAR 4:010, Section 3(a)] If adverse impacts on previously permitted or other lawful users are determined by the Cabinet, withdrawals shall be modified or cease. [401 KAR 4:200 Section 3]

Permit to Withdraw Public Water

Center Ridge Water District 3

Subject Item Inventory

Permit Number: 1798

Activity ID No.: APE20240001

Subject Item Inventory:

ID	Designation	Description
AIOO33824		
STRC1	Well 1	/GWB: 0003-3974 /GWMN: Center Ridge Water District 3 /

Subject Item Groups:

ID	Description	Components
GACT1	GROUND - /GWB: 0003-3974 /GWMN: Center Ridge Water District 3 /	STRC1 /GWB: 0003-3974 /GWMN: Center Ridge Water District 3 /

KEY

ACTV = Activity

AREA = Area

COMB = Combustion

FINA = Financial

PERS = Personnel

PSTA = PSTEAF Fund

STRC = Structure

AIOO = Agency Interest

CERT = Certificate

EQPT = Equipment

MNPT = Monitoring Point

PORT = Transport

STOR = Storage

TRMT = Treatment

KENTUCKY WELL INSPECTION FORM JUL 12 2001

(1) AKGWA
NUMBER

0 0 0 3 - 3 9 7 4

Attach Well Record
Label Here
(if applicable)Note: Water well labels begin with "0",
monitoring well labels begin with "8".

(2) OWNER/FACILITY INFORMATION

Well Owner's Name: Kesiana Water Works, Inc. ; Carol Powell
Last First MIMailing Address: 205 Angus Blvd.City: Hamlin State: KY Zip: 42046Well Address (if different) Ridge Rd.City: Hamlin State: KY Zip: 42046Phone: (270) 436-5716

(3) WELL RECORD LABEL LOCATION:

☐ well casing ☐ pressure tank ☒ water pipe
☐ well cap ☐ electric box ☐ not labeled
☐ pump ☐ other

(4) USGS Quadrangle Name

Well LOCATION HamlinLatitude 36° 35' 08"

County

GallowayLongitude 88° 04' 34"

(5) PHYSIOGRAPHIC OR HYDROLOGIC REGION

☐ Blue Grass ☐ Ohio River Alluvium
☐ E. Coal Field ☐ W. Coal Field
☐ Miss. Plateau ☒ Jackson Purchase

(6) DRILLER INFORMATION

Who Constructed Well? ☒ unknown

Address:

City: State: Zip:

Date Well Completed: Month / Day / Year ☒ unknown

(7) GENERAL

Type of Construction:

☒ drilled/augered
☐ excavate & backfill
☐ hand dug/blasted

Depth of Well: ft.

☐ measured
☐ reported
☒ unknown
Static Water Level,
ft. below surface:
☐ measured
☐ reported
☒ not measured
☐ can't be measured

Well Yield:

☐ gpm ☐ gph ☐ gpd
☐ measured
☐ estimated
☒ unknown

(8) SURFACE ANNULAR

MATERIAL:

☐ clay ☒ drill cuttings
☐ cement ☐ unknown
☐ open ☐ sand ☐ gravel
☐ concrete pad

(9) WELLHEAD

Is Well Located in a Pit?

☐ yes ☒ no ☐ unknown

Wellhead (casing top):

☒ well cap ☐ sanitary seal
☐ flush mount ☐ locking cap
☐ open ☐ unknown

Casing Above Ground Level?

☒ yes ☐ no ☐ unknown

2 inches above ground.

Discharge Pipe Below Surface?

☐ yes ☒ no ☐ unknown

Pitless Adapter Used?

☐ yes ☒ no ☐ unknown

(10) PUMP DETAILS

Date Installed:

☒ unknown Month / Day / Year

Pump Type:

☒ submersible ☐ bailer
☐ turbine ☐ jet ☐ hand pump
☐ none ☐ other ☐ unknown

Intake

Level: ft. below surface

Electric Connection:

☐ 2 wire ☒ 3 wire ☐ unknown

(13) WELL USE (check all that apply)

☒ domestic ☐ livestock ☐ not used
☒ public ☐ irrigation ☐ abandoned
☐ industrial ☐ monitoring
☐ other
PWSID# 0180502

Water Withdrawal Permit #

(14) WELL SERVICE

Number of People Served:

Number of Service Connections: 45Any Quantity Problems? ☐ yes ☒ noAny Quality Problems? ☐ yes ☒ no

If "yes", describe in COMMENTS section, below.

(15) COMPLIANCE TO STANDARDS

Construction in Compliance with KY Standards?

☐ yes ☐ no ☐ unknown ☒ pre-law

If "no", describe in COMMENTS section, below.

(16) RELATIVE LOCATION

☐ upgradient ☐ sidegradient ☐ unknown
☐ downgradient ☐ varying ☒ N/A

(17) INSPECTION INFORMATION

Date of Inspection: 6 / 15 / 01

Month / Day / Year

Water Quality Sample Taken: ☐ yes ☒ no

Reason for Inspection:

☐ general survey
☐ specific complaint investigation
☐ spill or incident response
☐ contamination site investigation
☐ enforcement
☐ general water quality analysis
☐ ambient groundwater monitoring
☒ other WSP

Program Name and Facility ID#:

Alternate Well ID#:

(21) COMMENTS:

Well formerly operated as Kesiana Water Works

(12) SKETCH MAP OF VICINITY

↑ N

3-3974
X3-3975 well house
Xunpaved rd. off Ridge Rd.

(22) INSPECTOR IDENTIFICATION

Name: Hedcombs Stephane A
Last First MI Inspector ID#Agency: ☐ DOW ☐ DWM ☐ CHR ☐ KGS ☒ other KesianaSignature of Inspector: Stephane HedcombsDate: 6/15/01

Distribution: White copy to DOW, pink copy to Inspecting Agency, yellow copy to Owner.

Printed with State Funds.

DEP 4051
Revised 3/1/1993

KENTUCKY WELL INSPECTION FORM

(1) AKGWA
NUMBER

0 0 0 3 - 3 9 7 5

**Attach Well Record
Label Here
(if applicable)**

**Note: Water well labels begin with "0",
monitoring well labels begin with "8".**

(2) OWNER/FACILITY INFORMATION

Well Owner's Name: Center Ridge WD #3 Bill Duncan
Last First MI

Mailing Address: 281 Morris Rd
City: Dexter State: KY Zip: 42036

Well Address (if different)
City: State: Zip:

Phone: (270) 474-8267

(3) WELL RECORD LABEL LOCATION:

☐ well casing ☐ pressure tank ☐ water pipe
☐ well cap ☐ electric box ☐ not labeled
☐ pump ☐ other

(4) USGS Quadrangle Name

Latitude Hamlin Longitude Calloway

(5) PHYSIOGRAPHIC OR HYDROLOGIC REGION

☐ Blue Grass ☐ Ohio River Alluvium
☐ E. Coal Field ☐ W. Coal Field
☐ Miss. Plateau ☐ Jackson Purchase

(6) DRILLER INFORMATION

Who Constructed Well? ☐ unknown

Address: City: State: Zip:

Date Well Completed: Month Day Year ☐ unknown

(13) WELL USE (check all that apply)

☐ domestic ☐ livestock ☐ not used
☐ public ☐ irrigation ☐ abandoned
☐ industrial ☐ monitoring
☐ other

PWSID# 0180502
Water Withdrawal Permit #

(18) ELEVATION

ft. AMSL
From ☐ ground surface ☐ top of casing
By ☐ map ☐ survey ☐ report ☐ GPS

(7) GENERAL
Type of Construction:

☐ drilled/augered
☐ excavate & backfill
☐ hand dug/blasted
Depth of Well: 165 ft.
☐ measured
☐ reported
☐ unknown

Static Water Level,
ft. below surface:
☐ measured
☐ reported
☐ not measured
☐ can't be measured

Well Yield:
☐ gpm ☐ gph ☐ gpd
☐ measured
☐ estimated
☐ unknown

(8) SURFACE ANNULAR
MATERIAL:
☐ clay ☐ drill cuttings
☐ cement ☐ unknown
☐ open ☐ sand ☐ gravel
☐ concrete pad

(9) WELLHEAD

Is Well Located in a Pit?
☐ yes ☒ no ☐ unknown
Wellhead (casing top):
☐ well cap ☐ sanitary seal
☐ flush mount ☐ locking cap
☐ open ☐ unknown
Casing Above Ground Level?
☒ yes ☐ no ☐ unknown
10 inches above ground.
Discharge Pipe Below Surface?
☐ yes ☐ no ☒ unknown
Pitless Adapter Used?
☐ yes ☐ no ☒ unknown

(10) PUMP DETAILS

Date Installed: ☐ unknown Month Day Year
Pump Type:
☐ submersible ☐ bailer
☐ turbine ☐ jet ☐ hand pump
☐ none ☐ other ☐ unknown
Intake Level: ft. below surface
Electric Connection:
☐ 2 wire ☐ 3 wire ☐ unknown

(14) WELL SERVICE

Number of People Served: 132
Number of Service Connections:
Any Quantity Problems? ☐ yes ☒ no
Any Quality Problems? ☐ yes ☒ no
If "yes", describe in COMMENTS section, below.

(15) COMPLIANCE TO STANDARDS

Construction in Compliance with KY Standards?
☐ yes ☐ no ☐ unknown ☐ pre-law
If "no", describe in COMMENTS section, below.

(16) RELATIVE LOCATION

☐ upgradient ☐ sidegradient ☐ unknown
☐ downgradient ☐ varying ☒ N/A

(17) INSPECTION INFORMATION

Date of Inspection: 9 15 13
Month Day Year
Water Quality Sample Taken: ☐ yes ☐ no
Reason for Inspection:
☐ general survey
☐ specific complaint investigation
☐ spill or incident response
☐ contamination site investigation
☐ enforcement
☐ general water quality analysis
☐ ambient groundwater monitoring
☒ other GUDI investigation
Program Name and Facility ID#:

(20) OPTIONAL USE

Will Owner Allow State Access?
☒ yes ☐ no ☐ unknown
Extent of Monitoring Allowed:
☐ collect sample
☐ measure SWL
☐ pump well
☒ complete access
☐ notification required
☐ other (describe below)
Monitoring Feasibility:

(11) WELL CONSTRUCTION DETAILS

Feet Below Surface From	To	Casing Inside Dia. (in.)	Casing Type	Casing Wall Thickness (in.)

(12) SKETCH MAP OF VICINITY

(21) COMMENTS:

17) well construction on surface inspected in support of GUDI

(22) INSPECTOR IDENTIFICATION

Name: ELLISON ERNIE
Last First MI Inspector ID#
Agency: ☒ DOW ☐ DWM ☐ CHR ☐ KGS ☐ other
Signature of Inspector: [Signature] Date: 10/1/13

KENTUCKY WELL INSPECTION FORM

(1) AFGWA NUMBER 0 0 0 5 - 3 4 8 1

Attach Well Record Label Here (if applicable)

**Note: Water well labels begin with "0",
monitoring well labels begin with "8".**

(2) OWNER/FACILITY INFORMATION

Well Owner's Name: Center Ridge WD #3 Bill Duncan

Mailing Address: 281 Morris Rd

City: Hawthorn Dextr State: KY Zip: 42036

Well Address (if different)

City: State: Zip:

Phone: (270) 474-8267

(3) WELL RECORD LABEL LOCATION:

☐ well casing ☐ pressure tank ☐ water pipe
☐ well cap ☐ electric box ☐ not labeled
☐ pump ☐ other

(4) USGS Quadrangle Name

County

Latitude

Longitude

(5) PHYSIOGRAPHIC OR HYDROLOGIC REGION

☐ Blue Grass ☐ Ohio River Alluvium
☐ E. Coal Field ☐ W. Coal Field
☐ Miss. Plateau ☐ Jackson Purchase

(6) DRILLER INFORMATION

Who Constructed Well? Unknown

Address:

City: State: Zip:

Date Well Completed: Month Day Year Unknown

(7) GENERAL

Type of Construction:
☒ drilled/augered
☐ excavate & backfill
☐ hand dug/bored
Depth of Well: 165 ft.
☒ measured
☐ reported
☐ unknown

Static Water Level,
ft. below surface:
☐ measured
☐ reported
☐ not measured
☐ can't be measured

Well Yield:
☐ gpm ☐ gph ☐ gpd
☐ measured
☐ estimated
☐ unknown

(8) SURFACE ANNULAR

MATERIAL:

☐ clay ☐ drill cuttings
☐ cement ☐ unknown
☐ open ☐ sand ☐ gravel
☐ concrete pad

(11) WELL CONSTRUCTION DETAILS

Feet Below Surface From To Casing Inside Dia. (in.) Casing Type Casing Wall Thickness (in.)

(12) SKETCH MAP OF VICINITY

(9) WELLHEAD

Is Well Located in a Pit?
☐ yes ☒ no ☐ unknown

Wellhead (casing top):
☐ well cap ☐ sanitary seal
☐ flush mount ☐ locking cap
☐ open ☐ unknown

Casing Above Ground Level?
☐ yes ☐ no ☐ unknown

12 inches above ground.

Discharge Pipe Below Surface?
☐ yes ☐ no ☐ unknown

Pitless Adapter Used?
☐ yes ☐ no ☐ unknown

(10) PUMP DETAILS

Date Installed: Month Day Year

Pump Type:
☐ submersible ☐ bailer
☐ turbine ☐ jet ☐ hand pump
☐ none ☐ other ☐ unknown

Intake Level: ft. below surface

Electric Connection:
☐ 2 wire ☐ 3 wire ☐ unknown

(13) WELL USE (check all that apply)

☒ domestic ☐ livestock ☐ not used
☐ public ☐ irrigation ☐ abandoned
☐ industrial ☐ monitoring
☐ other

PWID# 0180502

Water Withdrawal Permit #

(14) WELL SERVICE

Number of People Served: 132

Number of Service Connections:

Any Quantity Problems? ☐ yes ☒ no

Any Quality Problems? ☐ yes ☒ no

If 'yes', describe in COMMENTS section, below.

(15) COMPLIANCE TO STANDARDS

Construction in Compliance with KY Standards?

☐ yes ☐ no ☐ unknown ☐ pre-law

If 'no', describe in COMMENTS section, below.

(16) RELATIVE LOCATION

☐ upgradient ☐ sidegradient ☐ unknown

☐ downgradient ☐ varying ☐ N/A

(17) INSPECTION INFORMATION

Date of Inspection: 7 15 03

Water Quality Sample Taken: ☐ yes ☒ no

Reason for Inspection:

☐ general survey

☐ specific complaint investigation

☐ spill or incident response

☐ contamination site investigation

☐ enforcement

☐ general water quality analysis

☐ ambient groundwater monitoring

Other GUFI investigation

Program Name and Facility ID#:

Alternate Well ID#:

(21) COMMENTS:

17) well construction on surface in plot
asked operator to plug hole in well cap

(22) INSPECTOR IDENTIFICATION

Name: ELLCISON ERNIE

Agency: LDOW ☐ DWM ☐ CHR ☐ KGS ☐ other

Signature of Inspector: [Signature]

Date: 10/1/03

(18) ELEVATION

ft. AMSL

From ☐ ground surface

☐ top of casing

By ☐ map

☐ survey

☐ report

☐ GPS

(19) TREATMENT SYSTEM

☐ none

☐ water softener

☐ ultraviolet

☒ chlorination

☐ aeration

☐ charcoal filter

☐ sand filter

☐ iron treatment

☐ fluidation

☐ other

Treatment Bypass Available? ☐ yes ☐ no

(20) OPTIONAL USE

Will Owner Allow State Access?

☒ yes ☐ no ☐ unknown

Extent of Monitoring Allowed:

☐ collect sample

☐ measure SWL

☐ pump well

☒ complete access

☐ notification required

☐ other (describe below)

Monitoring Feasibility:

Attachment 4

WHPP Drinking Water Planning Team

Leader:

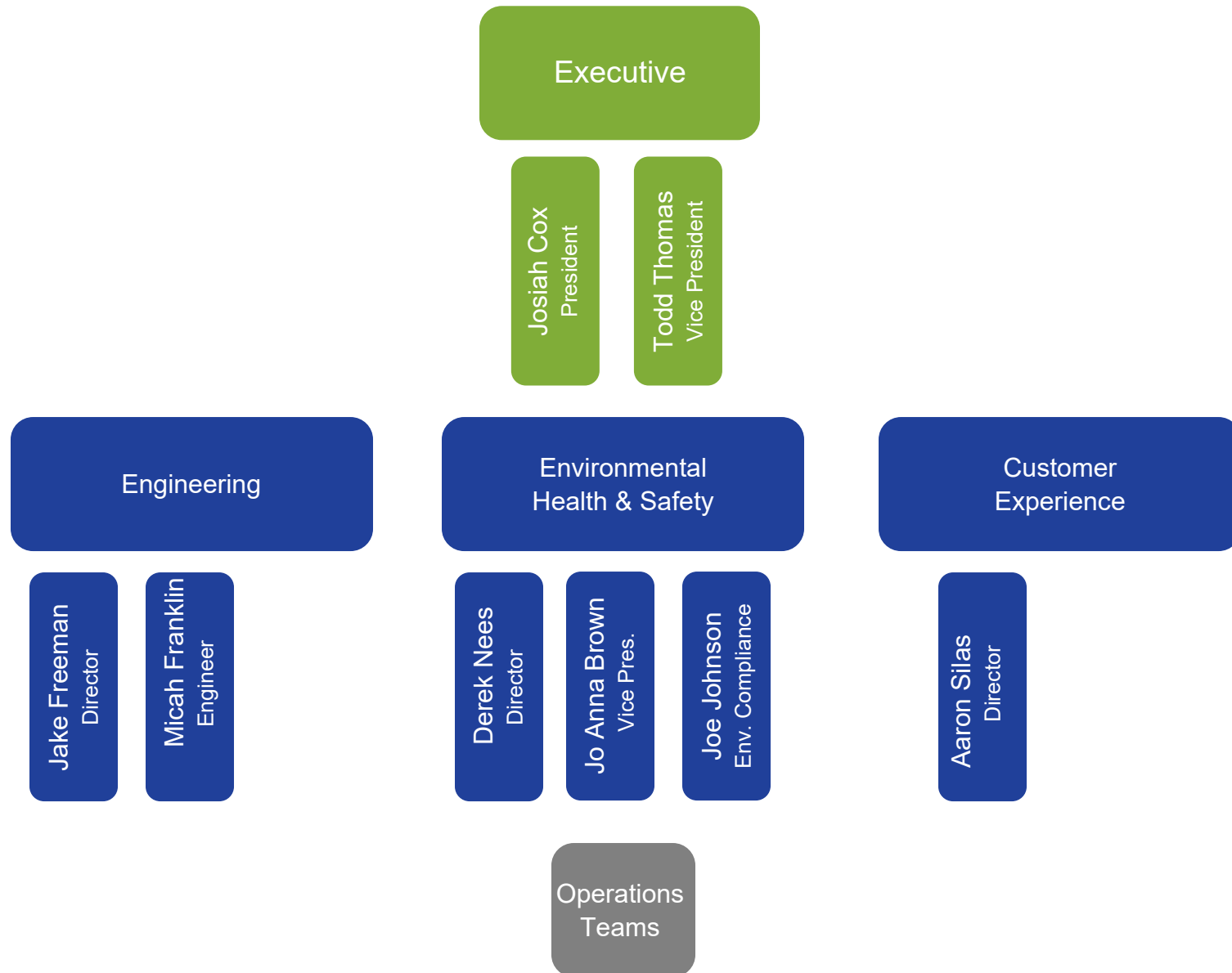
Joe Johnson, CSWR – EHS Compliance Coordinator
Oversees facility compliance with State and Federal Regulations/Statutes.

Team:

Jo Anna Brown, CSWR – Vice President
Oversees all facility operations for Bluegrass Water UOC. Directs team to carry out operation tasks.

Christopher Carroll, Bluegrass Water UOC – Operational Area Manager
Oversees communications between operators and customers.

Nikki Chambers, Bluegrass Water UOC – Operator (Primary)
Oversees facility operations.



Attachment 5

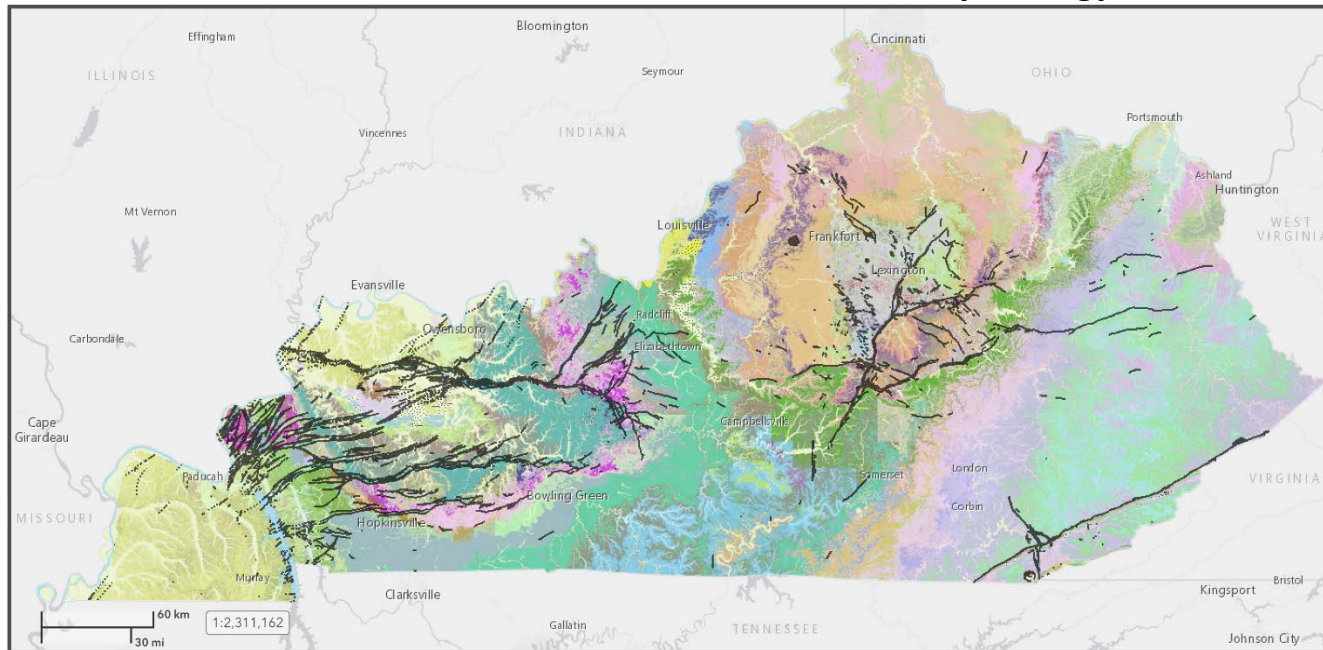
WHPA Delineation Information

The Center Ridge Water District # 3 withdraws water from the Mississippi Embayment (Jackson Purchase) region of Kentucky. According to the Kentucky Division of Water's Guide for Wellhead protection, the hydrologic sensitivity value for the aquifer rates as a two on a scale of one to three (three being the highest).

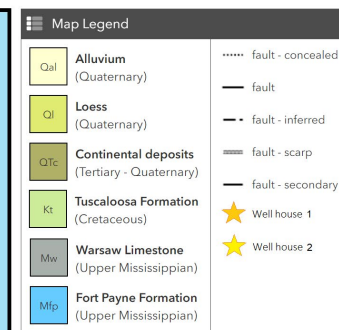
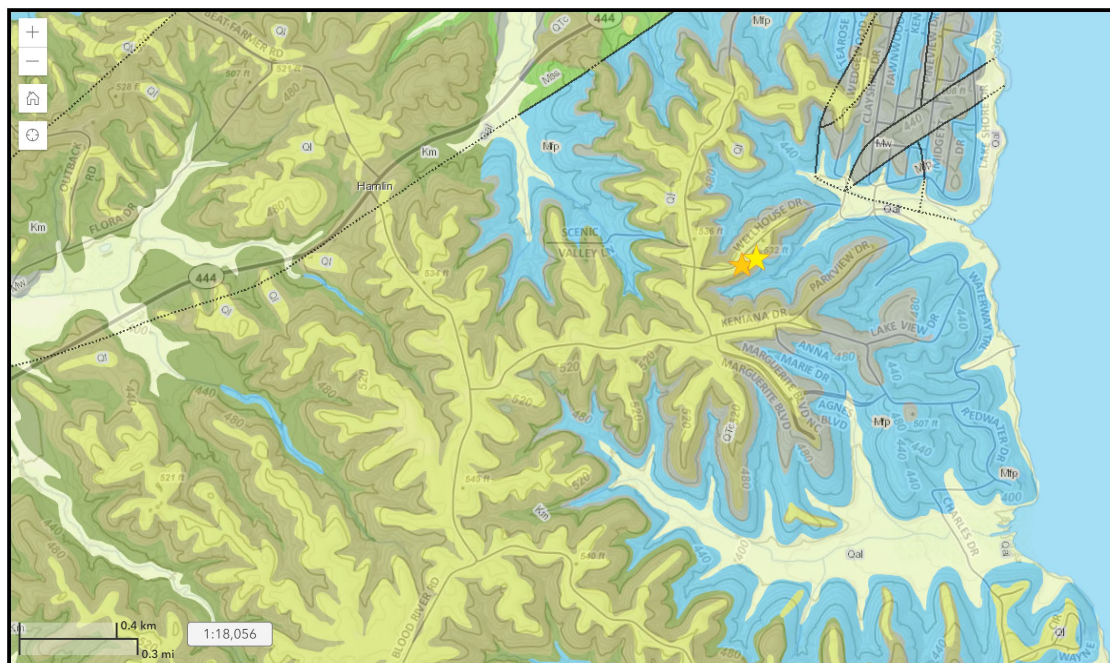
There are a total of eleven potential sources of contamination within the Center Ridge Water District's wellhead protection areas. Two of these potential sources are ranked high, due to proximity to an inactive but open well. The remaining ten ranked as having a medium risk to contamination of the aquifer. With the exception of the inactive well, all of the sources identified are septic systems that are found in WHP A's 1, 2, and 3.

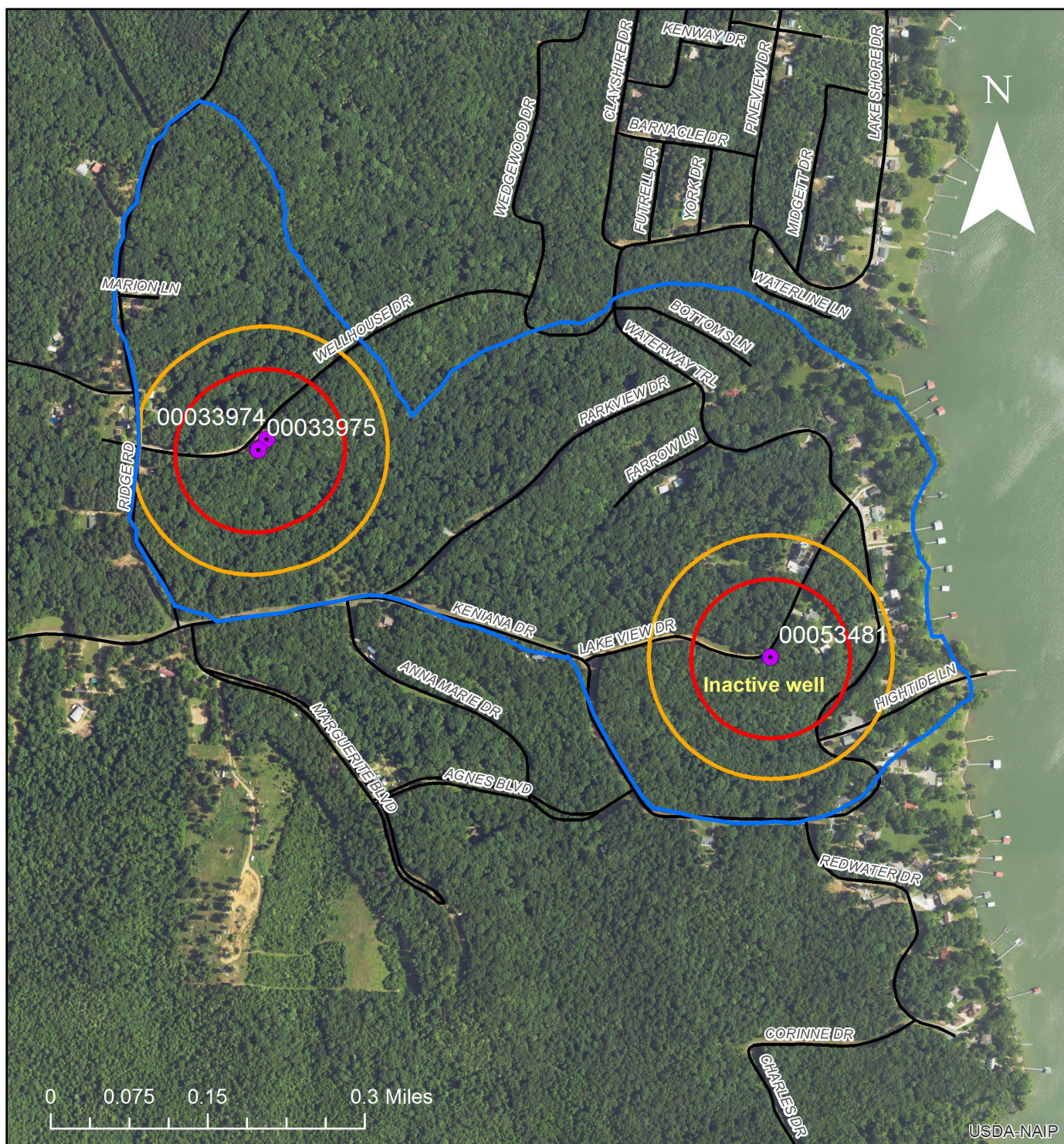
Due to the fact that the majority of the potential contaminant sources have a medium ranking the aquifer has been determined to have a medium risk ranking. This ranking is influenced by nature of the aquifer that has a medium sensitivity value, the nature of the potential contaminant sources, and historical water quality results.

Kentucky Geology



Center Ridge Water District #3 Geology





● Water Wells (PWS)

WHPA

- Zone 1: 180 day time of travel for potential contaminant
- Zone 2: 10 year time of travel
- Zone 3: Hydrologic boundary

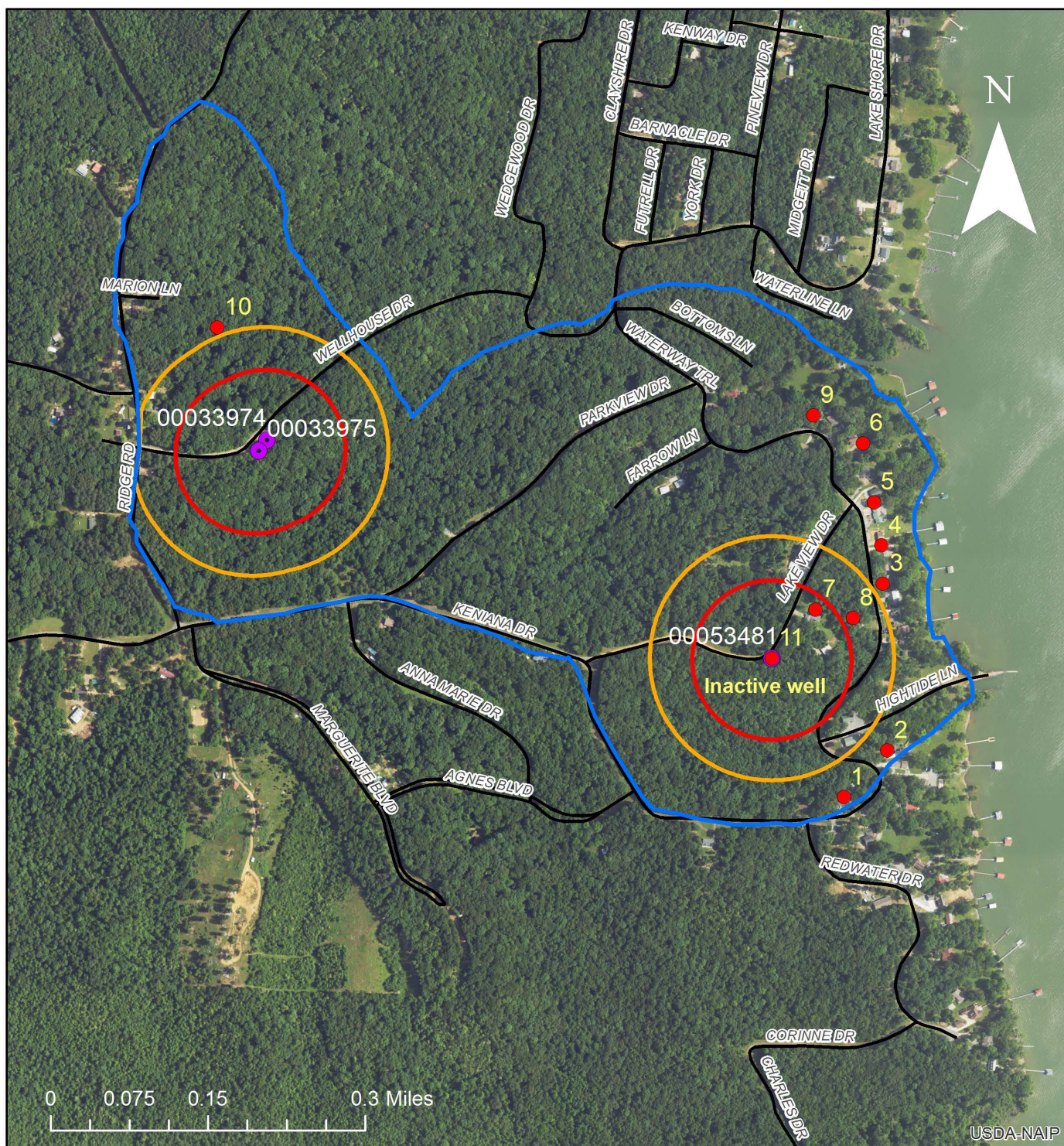
Attachment 7

Contaminant Source Inventory Summary & Map

The Center Ridge Water District # 3 withdraws water from the Mississippi Embayment (Jackson Purchase) region of Kentucky. According to the Kentucky Division of Water's Guide for Wellhead protection, the hydrologic sensitivity value for the aquifer rates as a two on a scale of one to three (three being the highest).

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● Potential Contaminants

● Water Wells (PWS)

WHPA

□ 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

Center Ridge Water District #3

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		Residential Septic	R-4	Septic System		36.582101	-88.0674	1	3	1	2	4	12	MED	
2		Residential Septic	R-4	Septic System		36.582762	-88.0667	1	3	1	2	4	12	MED	
3		Residential Septic	R-4	Septic System		36.58507	-88.0668	1	3	1	2	4	12	MED	
4		Residential Septic	R-4	Septic System		36.585597	-88.0669	1	3	1	2	4	12	MED	
5		Residential Septic	R-4	Septic System		36.586191	-88.067	1	3	1	2	4	12	MED	
6		Residential Septic	R-4	Septic System		36.587001	-88.0672	1	3	1	2	4	12	MED	
7		Residential Septic	R-4	Septic System		36.584686	-88.068	1	1	3	2	4	16	HIGH	
8		Residential Septic	R-4	Septic System		36.584581	-88.0673	1	2	2	2	4	14	MED	
9		Residential Septic	R-4	Septic System		36.58737	-88.0681	1	3	1	2	4	12	MED	
10		Residential Septic	R-4	Septic Tanks WHPA 2	Lakeshore Drive, Hamlin, KY	36.588384	-88.0784	27	3	2	2	4	14	MED	
11		Other Wells	G-10	Inative Well 0005-3481		36.583998	-88.0687	1	1	3	3	4	19	HIGH	

CSI Totals	Low	
	Med	35
	High	2

Overall Susceptibility Ranking	MED
--------------------------------	-----

Attachment 8

Previous Management Strategy and Newly Proposed Management Strategies

The purpose behind managing a wellhead protection area is to minimize the impact of land uses that threaten the quality and quantity of the public's drinking water supply. The underlying theme is simply to prevent pollution. Preventing pollution is the key to keeping groundwater supplies safe and to protect public health. Once a drinking water supply becomes contaminated, the community is faced with the difficult and costly task of installing additional treatment facilities or locating an alternate source.

Virtually all man-made land use activities have the potential to degrade groundwater quality. There are numerous factors that control the impact of land uses upon groundwater. The two most prominent factors are the geology of the area and the type of land use. The geology controls the direction and rate that a contaminant can travel, whereas the land use dictates the quantity and toxicity of the contaminant. This means that a particular land use in a less sensitive geologic setting may never significantly impact groundwater quality, but the same land use in a geologically sensitive setting can render groundwater unusable for human consumption. This is why a management plan must be tailored to each public water system.

The overall strategy of the management plan is to minimize the impact of the threats identified in the contaminant source inventory through regulatory and/or non-regulatory means.

Management Strategies

The Water District well field is located in a rural community in which all of the residents depend on septic systems as the area is not sewered. All of the contaminant sources can be managed through existing regulatory strategies. Therefore, the management strategies for protecting the drinking water supply will be a combination of regulatory compliance and public education.

The rationale for this decision is to use as many management strategies as possible to prevent contamination of the aquifer. Regulatory compliance management strategies will be used for those potential contaminant sources already identified through the contaminant source inventory that are subject to Groundwater Protection Planning regulations (401 KAR 5:037) or Kentucky's Agriculture Water Quality Act of 1994. The purpose of a groundwater protection plan is to ensure protection for all current and future uses of groundwater and to prevent groundwater pollution. Public awareness will be used to educate the surrounding community in their part in protecting the groundwater resource.

The Water District proposes the following management strategies for protecting their water supply.

Regulatory Compliance Objectives:

1. Center Ridge Water District # 3 will comply with groundwater protection planning regulations by completing a groundwater protection plan for their water supply well.

Public Education and Awareness Objectives:

2. A public notice will be posted at the wellhouse to inform residents about their wellhead protection plan.

Attachment 10
Public Education Material



**Generic Groundwater Protection Plan:
Residential Septic Systems**

HOMEOWNER'S SEPTIC SYSTEM GUIDE AND RECORD KEEPING FOLDER

The purpose of 401 KAR 5:037 and this groundwater protection plan is to prevent groundwater pollution. Understanding how your septic system works and following good operation and maintenance practices are the keys to preventing groundwater pollution.

This folder provides you with that information. By carefully reading it and following the guidelines, you will not only protect groundwater, but also should receive many years of trouble-free service from your system.

Keeping records will enable you to better protect and maintain your septic system. In case you sell your house, your records will show a prospective buyer that your system has been properly maintained.

FOR YOUR RECORDS

1. Maintenance Log: Date, what was done and reason for the maintenance (Example: measure sludge and scum layers, pump the tank).
2. Inspection Log: Date, what you observed upon walking over the septic system (Example: any unpleasant odors, soggy soil, lush green grass over the lateral lines, surfacing wastewater).
3. Site Drawing: Show accurately the layout of the system on your lot. Include exact distances of each portion of the system from at least two (2) fixed reference points (corner of house, garage, large trees, property line markers).
4. Any permits or receipts.
5. Residential Address _____

[illegible]

	Septic tank - drainfield
	Septic tank – constructed wetland - drainfield
	Septic tank – leaching chambers

	Septic tank - drainfield		Septic tank – low pressure pipe
	Septic tank – constructed wetland - drainfield		Septic tank – sewage lagoon - drainfield
	Septic tank – leaching chambers		Septic tank – gravelless pipe

System Inspection Log

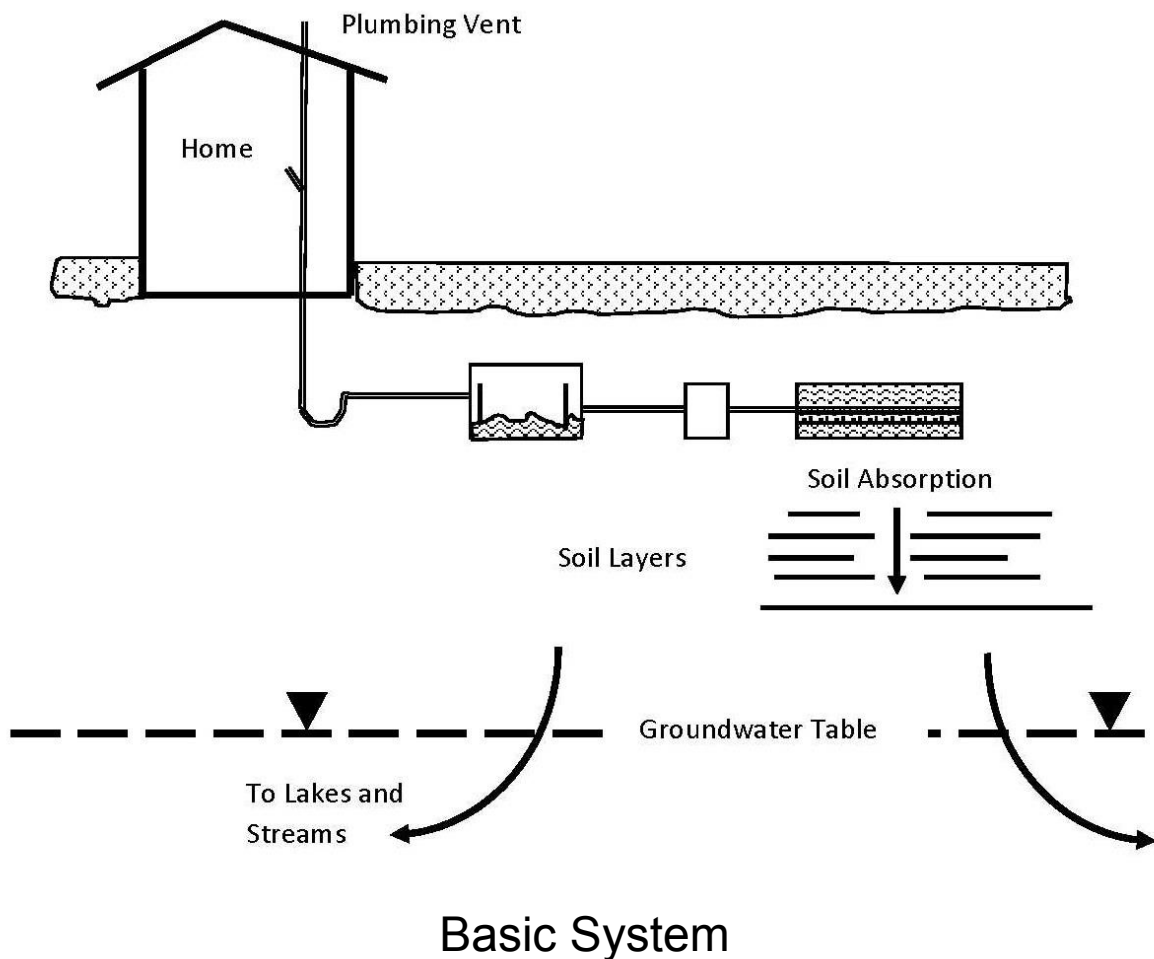
Date	Description

System Maintenance Log

Date	Description

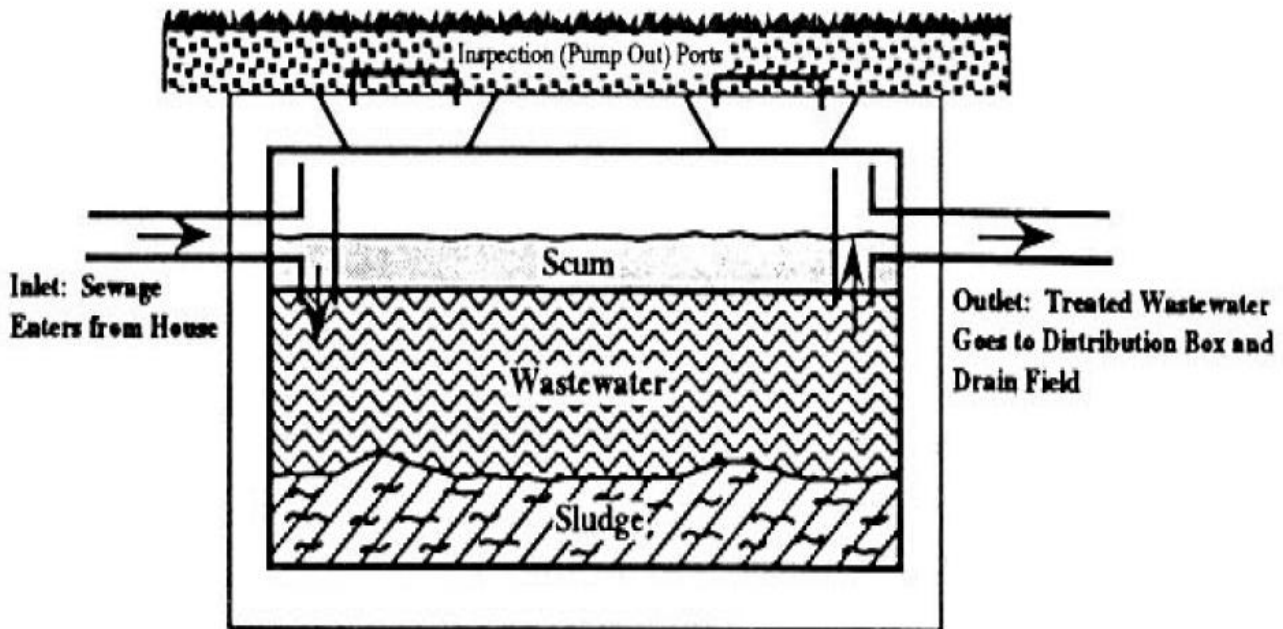
SYSTEM DESCRIPTION

A septic system uses natural processes to treat and dispose of the wastewater in your home. It typically consists of a septic tank and a drainfield (also called a leachfield, lateral field, or subsurface soil absorption beds/trenches). The system accepts both "blackwater" (toilet wastes) and "greywater" (wastes from the kitchen sink, bath tub/showers, and laundry). Water that should not be discharged to the system includes water from foundation or footing drains, roof gutters, and other "clear" water.



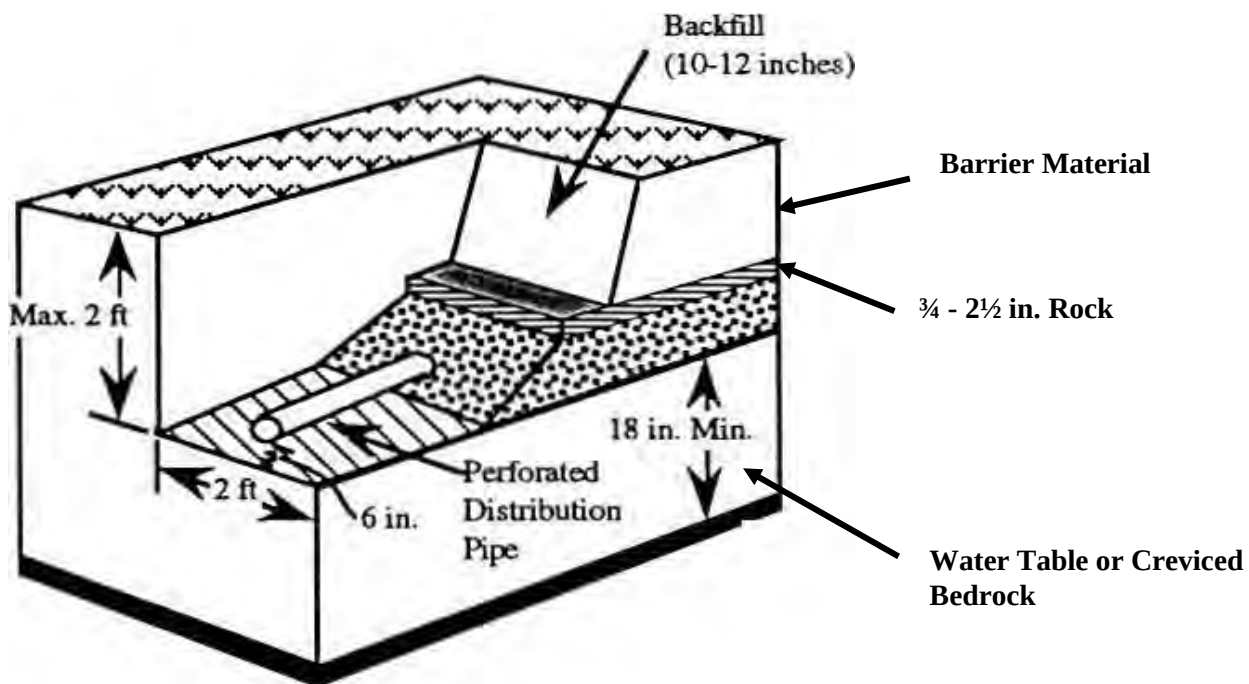
SEPTIC TANK

The septic tank provides the first step in treatment by separating the solids from the liquids. The wastewater is retained in the tank for 24 hours or more. During this time the heavier solids settle the bottom to form a sludge layer while the lighter solids float to the top to form a scum layer. Bacteria break down the solids, producing carbon dioxide, hydrogen sulfide, and other gases in the process. These gases are vented through the plumbing vent on your house roof. Since the bacteria reduce only about 40 percent of the sludge and scum volume, the tank must be pumped regularly (approximately every three to five years) to remove the accumulated solids. If the tank fills with sludge and scum, the solids will overflow into the drainfield and quickly clog the soil, resulting in system failure.



THE DRAINFIELD

The drainfield provides the final treatment of the wastewater and disposes of it through groundwater recharge. The typical drainfield is composed of trenches or beds which are shallow, level excavations installed one to one and a half feet above the groundwater table. Each trench contains a perforated distribution pipe through which wastewater drains into the gravel. The water is stored in the gravel until it can seep into unsaturated soil underlying and adjacent to the trench. As the wastewater moves slowly through the gravel and soil, many of the disease-causing bacteria and viruses are filtered out, or adsorbed and held by the soil particles until they die. Where soils do not permit a drainfield to adequately treat septic tank effluent, an additional or alternative treatment system must be used in conjunction with the drainfield. Alternative systems primarily used in Kentucky are constructed wetlands and sewage lagoons. These alternative systems have their own operation and maintenance guidelines. If you would like information about these guidelines, contact the Groundwater Section.

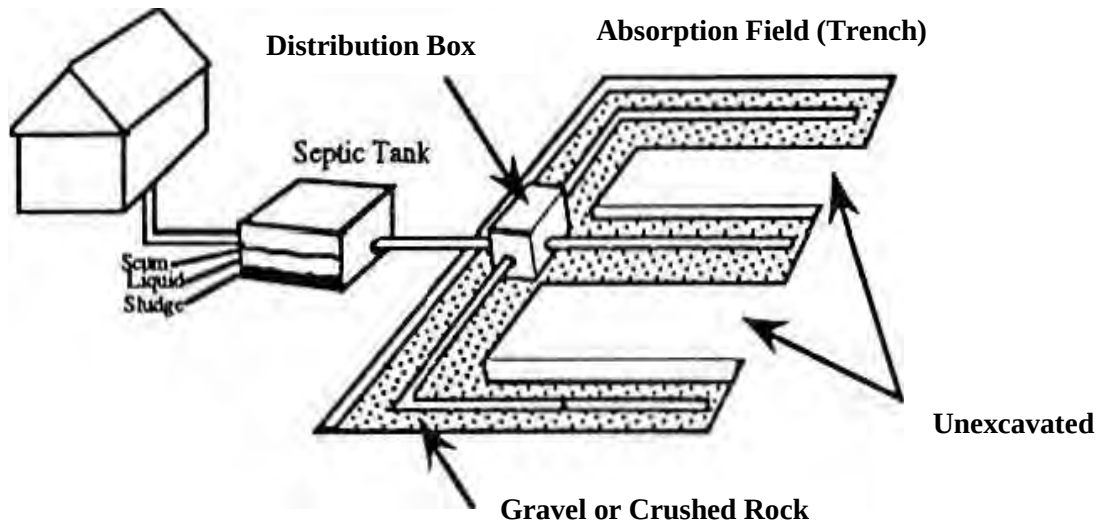


Conventional Rock Drainfield
Trench Cross-Section

TAKING CARE OF YOUR SYSTEM

Your septic system represents a significant investment worth protecting. The old "An ounce of prevention is worth a pound of cure" is so true when it comes to the care of your septic system. If you follow the operation and maintenance guidelines below, your system will function better and last longer, and you will avoid the nightmare and se of a failed system. Most important, your a will not be polluting groundwater.

Conventional Septic System



DO

- Conserve water to reduce the amount of wastewater that must be treated and disposed.
- Repair any leaking faucets and toilets.
- Discharge only biodegradable wastes into system.
- Divert down spouts and other surface water away from your drainfield.
- Keep your septic tank cover accessible for tank inspections and pumping
- Have your septic tank pumped regularly and checked for leaks and cracks.
- Call a professional when you have problems
- Compost your garbage or put in trash.

DON'T

- Use a garbage grinder.
- Flush sanitary napkins, tampons, disposable diapers, condoms and other non-biodegradable products into your system.
- Dump solvents, oils, paints, thinners, disinfectants, pesticides or poisons down the drain. These materials can disrupt the treatment process and contaminate the groundwater.
- Dig in your drainfield or build anything over it.
- Plant anything over the drainfield except grass
- Drive over you drainfield or compact the soil in any way.

If you have any questions or need additional information, contact:

The Groundwater Protection Program Coordinator

**Kentucky Energy and Environment Cabinet
Kentucky Division of Water
Watershed Management Branch
Groundwater Section
300 Sower Boulevard, 3rd floor
Frankfort, KY 40601
(502) 564-3410**

Groundwater Protection Plan Regulation 401 KAR 5:037

<https://eec.ky.gov/Environmental-Protection/Water/GW/Pages/GWGPP.aspx>

**Kentucky Cabinet for Health and Family Services
Department of Public Health
Environmental Management Branch
275 E. Main St.
Frankfort, Ky. 40621
(502) 564-4856**

Onsite Regulations 902 KAR 10:085

Septic Tank Servicing Regulation 902 KAR 10:170

<https://www.chfs.ky.gov/agencies/dph/dphps/emb/Pages/environmentmgmt.aspx>

A Kentucky Homeowner's Guide to Septic Systems

<https://healthdepartment.org/wp-content/uploads/2016/06/onsite-sewowners-manual.pdf>

**Check List
for
Evaluating Your Septic System**

- 1.** Find and mark the location of the septic system, you should map this information in the space provided in your Groundwater Protection Plan: "Homeowner's Septic System Guide and Record Keeping Folder."
- 2.** When was the septic tank last pumped?

- 3.** If the tank was last pumped over three years ago, or if you have recently moved into the house and don't know when the tank was last pumped, contact a septic tank pumper. Have him service the tank and check the baffles.
- 4.** Do toilets flush slowly and does water drain slowly from sinks and tubs, or does either "gurggle"?
Yes ☐ No ☐
- 5.** Is there any standing water, soggy ground, or smelly liquid in or near the drainfield?
Yes ☐ No ☐
- 6.** Does the ground slope toward the septic system?
Yes ☐ No ☐
- 7.** Are your septic tank and drainfield less than 100 feet from a lake, stream, or pond?
Yes ☐ No ☐
- 8.** Are water-loving trees such as willows, sycamores, birches, or water maples growing within 10 feet of the septic tank?
Yes ☐ No ☐
- 9.** Are there any areas over the septic tank or drainfield where people have frequently driven their cars or trucks?
Yes ☐ No ☐
- 10.** Have any additions been made to the house since the present septic system was installed?
Yes ☐ No ☐
- 11.** Do you have dripping faucets or a toilet that runs continuously or gradually loses water from its tank?
Yes ☐ No ☐
- 12.** Do you put cigarette butts, coffee grounds, cooking fats, disposable diapers, facial tissue, wet-strength towels, or other non-biodegradable materials into your septic tank?
Yes ☐ No ☐

If you have answered YES to one or more of questions 4 - 12, the septic system may not be functioning correctly. Call your local health department, or seek other professional help. Should repair of the system be necessary, be sure to engage the services of a professional who has a groundwater protection plan on file.