



**ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION**

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

**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: Allan Shingleton
300 Sower Boulevard, 3rd Floor
Frankfort, Kentucky 40601 or allan.shingleton@ky.gov

For assistance contact Allan Shingleton at (502) 782-6907 or allan.shingleton@ky.gov

System Information:

PWS Name: **Columbus Water Works**

PWS ID Number: 0530083

AI Number: **1860**

Contact Person/Title: **Pete Fernandez**

Mailing Address: **PO Box 17 Columbus, KY 42032**

Telephone: **270-677-2191** Email: **columbuswaterworks@windstream.net**

System Type*: **Community**

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

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

County: **Hickman** ADD: **Purchase**

WWD Permit #: **0912** Permitted Amount (mgd): **.50 mgd**

Population Served: **300**

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

WHPP Changes Summary: **No changes have occurred since the previous submittal**

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 road map or a GIS-produced map. Please use the area below to provide relevant details, or to indicate that no change has occurred.

There has been no change since the previous submittal. A county road map with the location of the treatment plant has been attached.

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.

There has been no change to the water withdrawal or water quality for Columbus Water Works since the previous submittal.

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, lithologic or geophysical logs), below.

Columbus Water Works uses the same two wells and no changes have occurred to them since the previous submittal. Copies of the well inspection records are attached.

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:

Pete Fernandez – Plant Operator

Team Members:

Melissa Griffith – City Clerk

David Garrett – Arlington Water Operator

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.

There has been no change to the WHPA delineation since the previous submittal. A WHPA map is attached.

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. Please contact program staff for assistance.

There have been no changes to the CSI since the previous submittal. A CSI map is attached.

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 discussion of the overall system susceptibility. Please contact program staff for assistance.

There are no changes to the CSI since the previous WHPP update. The susceptibility determination is medium. A CSI table is attached.

Section 8 (REQUIRED): Management Strategies

Provide a discussion of the previous and newly proposed management strategies. 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.

Previous Management Strategy Update:

Columbus Water Works has continued to work within the framework of existing regulations to protect its groundwater. The system continues to update its GPP(groundwater protection plan). Wellhead Protection brochures were made and distributed to the public as an education strategy.

Newly Proposed Management Strategies:

Future management strategies would focus on conducting water sample testing on a more frequent basis to ensure no contamination has entered the aquifer. Also, continuing public education efforts by distributing the Wellhead protection flyers is an integral part of future plans. Columbus will continue to update their GPP as needed.

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) 562-1948
Columbus Fire Department	(270) 677-4034
Columbus Police Department	911
Hickman County Office of Emergency Management	(270) 653-8338
Local Emergency Dispatch Click here to enter text.	911

State and Federal Assistance	Phone Number
Kentucky DOW (Frankfort)	(502) 564-3410
Kentucky DOW Associated Field Office FIELD OFFICE	(270) 898-4897
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
National Response Center	800-424-8802
ChemTrek	800-424-9300

Click here to enter text.	
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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.

If an emergency were to occur then the short term contingency plan involving boil water advisories and available bottled water would fo into effect. The long term contingency plan would involve tapping into Arlington, Clinton, or Bardwell’s water systems and/or drilling another well. In the event of an emergency Columbus will notify the public of the situation via local newspaper and radio.

Newspaper, Television, and Radio Stations	Phone Numbers
Hickman County Times	(270) 653-4040
WKYQ 93.3	(270) 554-8255

Potential Future Problems:

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

Based on the susceptibility analysis the most likely threat of contamination to impact the wells is from nitrates due to failing septic systems. If this scenario occurs, modifying the treatment process would not be an option for Columbus as the cost of operating reverse osmosis or a bio-reactor are too high. Drilling a new well would be a viable option for Columbus provided that property is available for purchase and the groundwater is of good quality.

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.

Since no interconnect exists with another water system, water would have to be hauled in from neighboring Arlington Water District. This would be a short term solution for any contamination that had compromised Columbus' supply wells. Long term solutions would be the development of a new well or an alternative treatment process.

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.

Click here to enter text.

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

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

Click here to enter text.

***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: 8-10-2021

Printed Name/Title: Pete Fernandez/Plant Operator

Assistance:

For any assistance please contact Wellhead Protection Staff:

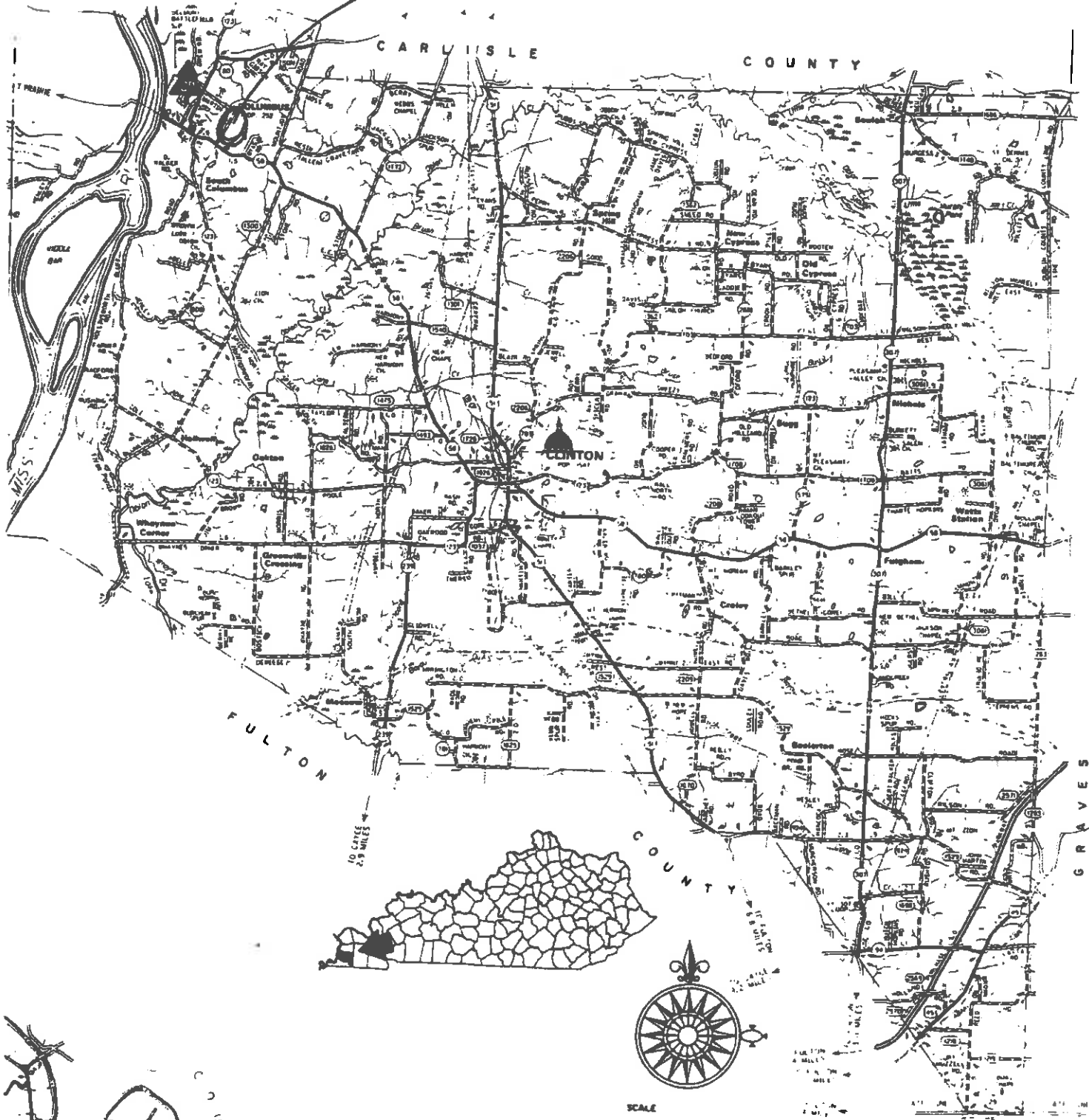
Rob Blair
(502) 782-6893
Robert.Blair@ky.gov

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

Please sign and return completed form to:

Kentucky Division of Water
Watershed Management Branch
Attention: Allan Shingleton
300 Sower Boulevard, 3rd Floor
Frankfort, Kentucky 40601
or allan.shingleton@ky.gov

WTP



Columbus-Belmont
Battlefield
State Park

OBION COUNTY WEAVER COUNTY

KENTUCKY WELL INSPECTION FORM

(1) AKGWA NUMBER 0 0 0 3 - 3 8 9 2

(2) OWNER/FACILITY INFORMATION
Well Owner's Name: Columbus Water Works
Mailing Address: P.O. Box 17
City: Columbus State: KY Zip: 42032
Well Address (if different)
City: _____ State: _____ Zip: _____
Phone: (502) 677-2191

0003-3892

monitoring well labels require well ID #

(3) WELL RECORD LABEL LOCATION:
 well casing pressure tank water pipe
 well cap electric box not labeled
 pump other

(4) USGS Quadrangle Name Clinton Arlington County Hickman
WELL LOCATION Latitude 36° 46' 15" Longitude 89° 05' 56"

(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? Kelley well Drill. unknown
Address: _____
City: Clinton State: KY Zip: 42031
Date Well Completed: 07 / 24 / 94 unknown
Month Day Year

(13) WELL USE (check all that apply)
 domestic livestock not used
 public irrigation abandoned
 industrial monitoring
 other
PWSID# 0530083
Water Withdrawal Permit # 0912

(18) ELEVATION
460 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: 240 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

(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

(14) WELL SERVICE
Number of People Served: 300
Number of Service Connections: 128
Any Quantity Problems? yes no
Any Quality Problems? yes no
If 'yes', describe in COMMENTS section, below.

(19) TREATMENT SYSTEM
 none
 water softener
 ultraviolet
 chlorination
 aeration
 charcoal filter
 sand filter
 iron treatment
 fluoridation
 other
Treatment Bypass Available? yes no

(10) PUMP DETAILS
Date Installed: 7 / 24 / 94
 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

(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: 01 / 05 / 94
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
Program Name and Facility ID#:
Alternate Well ID#: 5 well

(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:

(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.)
0 240 6" PVC 1/8"

(12) SKETCH MAP OF VICINITY
Hwy 123


(21) COMMENTS:

(22) INSPECTOR IDENTIFICATION
Name: Morgan Gary L. 555
Last First MI Inspector ID#
Agency: DOW DWM CHR KGS other
Signature of Inspector: Gary Morgan Date: 1/5/94

KENTUCKY WELL INSPECTION FORM

(1) AKGWA NUMBER 0 0 0 3 - 3 8 9 1

(2) OWNER/FACILITY INFORMATION
Well Owner's Name: Columbus Water Works
Mailing Address: P.O. Box 17
City: Columbus State: KY Zip: 42032
Well Address (if different):
City: State: Zip:
Phone: (502) 677-2111

Well Record
0003-3891
MONITORING WELL LABELS

(3) WELL RECORD LABEL LOCATION:
 well casing pressure tank water pipe
 well cap electric box not labeled
 pump other

(4) USGS Quadrangle Name Aclyngt County Hickman
WELL LOCATION 36°46' 15" Lon 89°05' 56"

(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? Kelley Well unknown
Address:
City: Clinton State: KY Zip: 42031
Date Well Completed: 07 04 unknown
Month Day Year

(13) WELL USE (check all that apply)
 domestic livestock not used
 public irrigation abandoned
 industrial monitoring
 other
PWSID# 0530083
Water Withdrawal Permit # 0912

(18) ELEVATION
460 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: 240 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

(9) WELLHEAD
Is Well Located in a Pit?
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If 'yes', describe in COMMENTS section, below.

(19) TREATMENT SYSTEM
 none
 water softener
 ultraviolet
 chlorination
 aeration
 charcoal filter
 sand filter
 iron treatment
 fluoridation
 other
Treatment Bypass Available? yes no

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

(10) PUMP DETAILS
Date Installed: 07 04
 unknown Month Day Year
Pump Type:
 submersible bailer
 turbine jet hand pump
 none other unknown
Intake Level: _____ ft. below surface
Electric Connection:
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(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: 01 05 94
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 wellhead pro.
Program Name and Facility ID#:
Alternate Well ID#: N well

(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.)
0	240	8"	PVC	3/8

(12) SKETCH MAP OF VICINITY
 Hwy 123
 Trunk Plant Clear Well

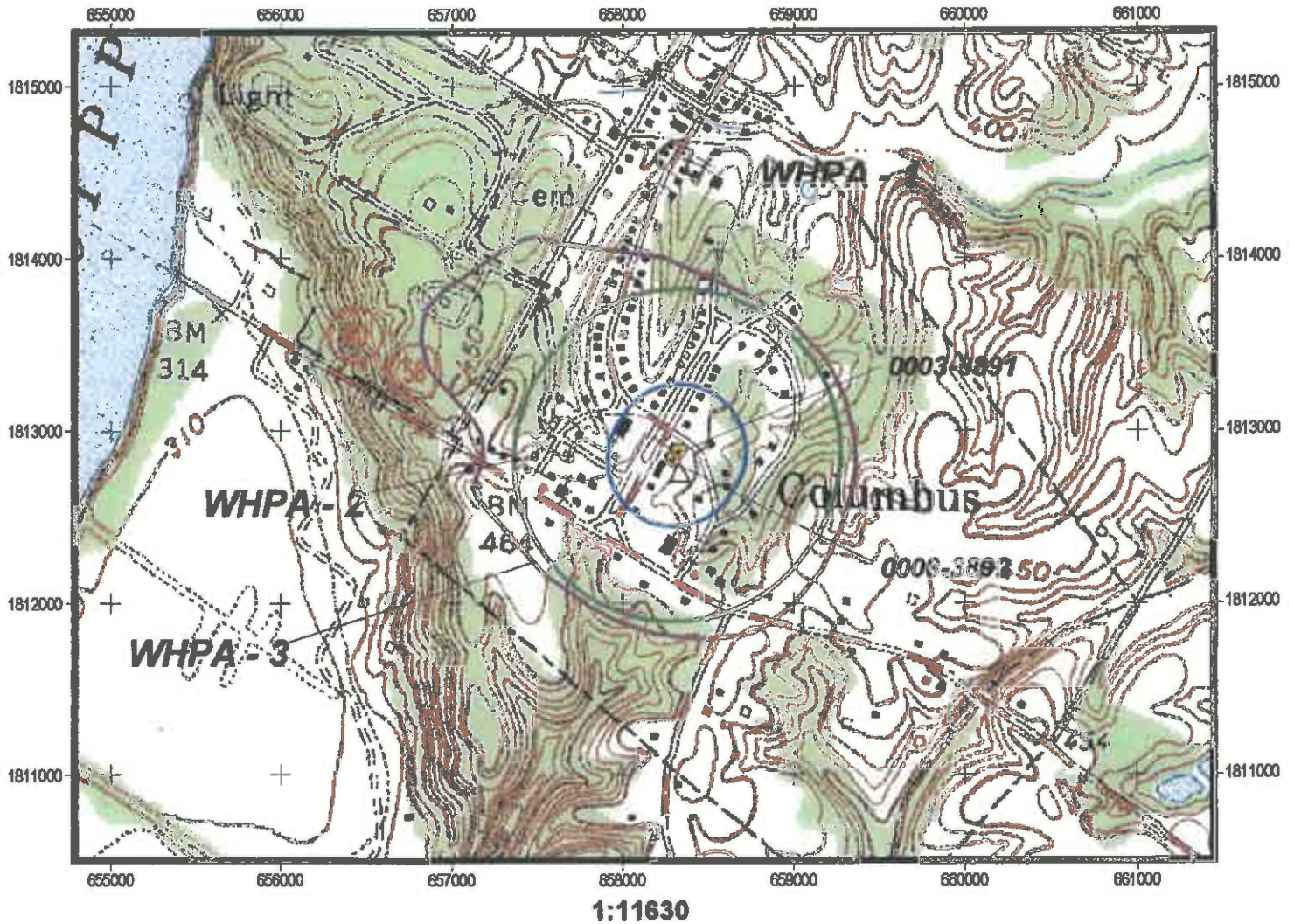
(21) COMMENTS:

(22) INSPECTOR IDENTIFICATION
Name: Morgan Gary L. 555
Last First MI Inspector ID#
Agency: DOW DWM CHR KGS other
Signature of Inspector: Gary Morgan Date: 1/5/94

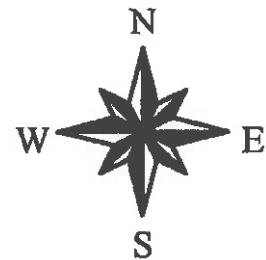
Wellhead Protection Area for Columbus Water Works

PWSID 0530083

Arlington Quadrangle
Hickman County, Kentucky



- ⊙ Well location
- ▭ WHPA - 1
- ▭ WHPA - 2
- ▭ WHPA - 3



Prepared by
Kentucky Rural Water Association

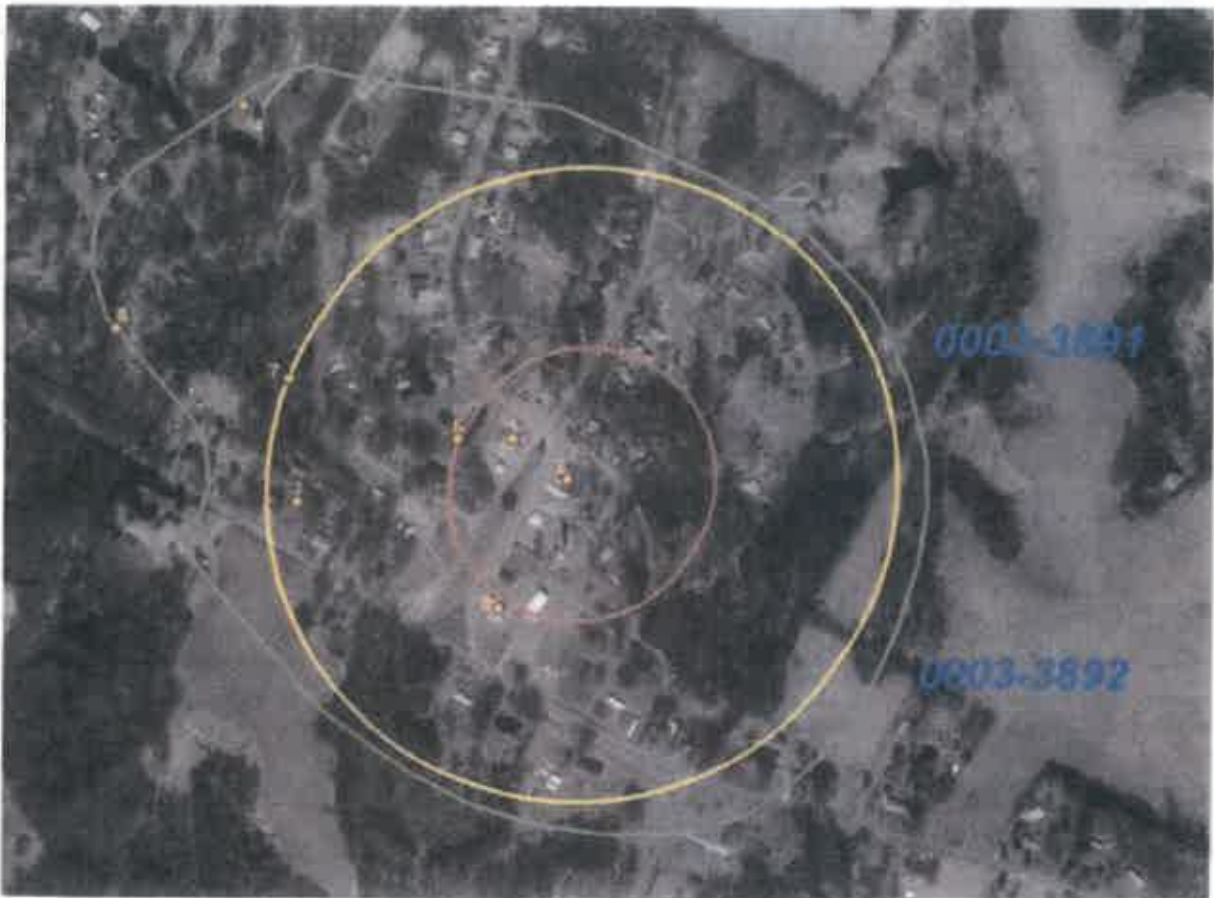
Contaminant Source ID#	Contaminant Source/Land Use	Mailing Address	Quantity	WHPA	proximity calc	Contaminant Value	Hydrologic Sensitivity	Numeric Rating	Susceptibility Ranking
1	Ashland Gas Station - UST	Columbus, KY 42032	2	1	3	3	2	17	High
2	Old Service Station - UST (Removed)	Columbus, KY 42032	0	1	3	3	2	17	High
3	Brame Residence - AST	11176 HWY 58 Columbus, KY 42032	1	2	2	3	2	15	High
4	Bellmont State Park Cemetery	Columbus, KY 42032	1	3	1	2	2	10	Med
5	Columbus Fire Department - AST	Columbus, KY 42032	1	2	2	3	2	15	High
6	WHPA-1 Septic Systems	Columbus, KY 42032	18	1	3	2	2	14	Med
7	WHPA-2 Septic Systems	Columbus, KY 42032	60	2	2	2	2	12	Med
8	WHPA-3 Septic Systems	Columbus, KY 42032	17	3	1	2	2	10	Med






Totals:	High	Med	Low	
100	4	96	0	

Contaminant Source Inventory for Columbus Water Works

PWSID: 0530083

*Arlington Quadrangle
Hickman County, Kentucky*



-  Potential Contaminates
-  Well location
-  WHPA - 1
-  WHPA - 2
-  WHPA - 3

