# **Drinking Water Sanitary Survey** TECHNICAL INSPECTION OF SURFACE WATER PLANT AND DISTRIBUTION SYSTEM OPERATIONS

# PWS ID: KY0470393 Agency Interest Number: 1673; CIN20200001 AI Name: Hardin Co Water District 1 County: Hardin WTP Latitude: 37.807702 WTP Longitude: -85.951985 CTAB Inspection Date(s): 9/14/2020

TREATMENT PROCESS SUMMARY				
Primary Source: Pirtle Spring		Maximum Pumping Rate: 2152		
Secondary Source: Head of Rough River	condary Source: Head of Rough River			
Pre-sedimentation Size: N/A	Aeration: 1)N/A 2) N/A			
Sedimentation (Primary): N/A Filter (Pri		Filter (Primary): N/A		
Sedimentation 2: 1) N/A Filter 2 (i		f 2 different filter types): 1) N/A		
2) N/A		2) N/A		
Total Clear Well Size (gallons): 466,890	Total Dist	tribution Storage Capacity (gallons): 3,668,0	000	
Does each component of the WTP meet 10 State Standards or has each been approved by the Division of Water? Yes		Yes 🖂	No 🗌	
COMMENTS:				

CHEMICALS SUMMARY				
Pre-Disinfection/Treatment: 1) Chlorine Gas	Primary Coagulant: Polyaluminum Chlorides/Sulfates			
2) N/A	Secondary Coagulant (Name): N/A			
Post-Disinfection: 1) Chlorine Gas				
2) Chloramines				
Filter Aid Name:	Corrosion Control: pH Adjustment/Caustic			
Taste and Odor: Activated Carbon/Powdered	Softening: N/A			
Iron and Manganese Removal: Potassium Permanganate	Fluoride Supplement: Hydrofluosilicic Acid			
COMMENTS: 40% Liquid Ammonium Sulfate added to crea	te Chloramines			

PLANT SCHEMATIC (OPTIONAL)				
Include a plant schematic indicating the following details. Place an "X" in the box to indicate this item is included on the schematic.				
Source water type/location	Major unit processes (including baffling factors and volumes)			
Flow measurement locations	Chemical injection locations			
Piping Flexibility (including # of raw and finished water mains)	Waste handling			

I. SOURCE						
	SOURCE					
SOURCE NAME	ARE TI WAT QUAI ISSU	HERE TER LITY ES?				
Pirtle Spring	0924	Yes 🛛 No 🗌	Yes 🖂	No 🗌		
Head of Rough River overflow spring	Yes 🛛	No 🗌				
Upstream land uses (✓ all that apply): ☐ Farmland ☐ Industry ☐ Logging ☐ Mini	ng 🗌 Oil and Gas 🔀 R	ecreation Resi	dential 🗌 Other	_		
Upstream discharges within 5 miles (✓ all that a ☐ Farmland ☐ Industry ☐ Logging ☐ Mini ☐ Water/Wastewater Discharge ☐ Other	pply): ng □ Oil and Gas □ R _	ecreation 🗌 Resid	dential			
Is there a source water protection plan in place?	Yes 🖂	No 🗌				
Are there any sources of Cryptosporidium in the	Yes 🖂	No 🗌				
Describe the sources: <u>Cattle</u>						
Is the system drought-vulnerable? (Has the system source during warm weather?)	m ever been on water con	servation or dealt v	with a dwindling water	Yes 🖂	No 🗌	
Does the system perform both source and finish	ed water quality monitor	ing as required?		Yes 🖂	No 🗌	
What type of water quality monitoring is done on Alkalinity BacTs Hardness Iron	n the source water (✓ all t Manganese ⊠pH ⊠Te	hat apply): emperature ⊠Turb	oidity None			
If multiple sources are available, is the one in use	the "best" in terms of bo	th water quality an	d quantity?	Yes 🖂	No 🗌	
Are there any factors that have limited the capaci	ty of raw water source(s)	with in the last 10	years?	Yes 🗌	No 🖂	
If the capacity of a raw source has been limited been successfully addressed? If not, explain:	d within the past 10 year	rs, have the contri	buting factors already	Yes 🗌	No 🗌	
Are there any unaddressed factors that have reduc	ced the quality of raw wa	ter source(s) in the	last 10 years?	Yes 🗌	No 🖂	
If the quality of the raw water source(s) has be factors already been successfully addressed?	een reduced within the p If not, explain:	oast 10 years, have	e the contributing	Yes 🗌	No 🗌	
Are there any unaddressed factors that have limit last 10 years?	ed the water available for	purchase from cor	ntracted source(s) in the	Yes 🗌	No 🛛	
If water available for purchase through contra the contributing factors already been successfu	acted source(s) has been ully addressed? If not, e	limited within the explain:	e past 10 years, have	Yes 🗌	No 🗌	

INTAKE STRUCTURE							
LOCATION					SCREEN		IS SILT
ROAD/AREA	LATITUDE	LONGITUDE	TYPE	# of INLETS	GRID SIZE	IS FLOODING A PROBLEM?	A PROBLEM?
Shipley Rd	37.695939	-86.108147	Fixed	2	33	NO	NO
Gray Ln	37.719117	-86.078537	Fixed	1	33	NO	NO

Number of raw water mains: <u>2</u> which are: PUMPED i or GRAVITY FED								
Is raw water flow measured? Yes 🔀								
If yes, when was the meter last calibrated? $\frac{4/26/2017}{2}$								
List any chemicals fed at the source: Powder Activated Carbon								
If source is a reservoir, is it aerated? Yes No								
List depths of intake levels (normal pool): <u>62'</u>								
Screens are: STATIONARY 🖾 or MECHANICAL 🗌	Screens are: STATIONARY 🖾 or MECHANICAL 🗌							
Is screen clogging a problem? Yes 🗌 No						No 🖂		
How are screens cleaned?								
Are Zebra mussels a problem?   Yes						No 🖂		
If yes, list actions taken:								
How often are the submerged portions of the intake inspected? As needed								
When was the date of the last inspection? <u>1/2019: New pump and shaft, camera/video inspection of well</u>								
COMMENTS:								

# **II. TREATMENT/PUMPS**

PRE-SEDIMENTATION							
	N/A						
CAPACITY (gallons)	FLEXIBILITY TO BYPASS	CHEMICAL FEED CAPABILITY	LIST CHEMICALS FED				
	Yes 🗌 No 🗌	Yes 🗌 No 🗌					
	Yes 🗌 No 🗌	Yes 🗌 No 🗌					
Are treatment chemicals fed at th	Yes 🗌 No 🗌						
If so, is the chemical fed: ALL 7	If so, is the chemical fed: ALL THE TIME  or INTERMITTENTLY ?						
Is algae growth a problem? Yes No							
How often are the pre-sedimentation basin(s) cleaned?							
COMMENTS:							

	AERATION					
N/A						
TYPE	CAPACITY (gallons)	REASON FOR AERATION				
COMMENTS:						

RAPID MIX
$N/\Delta$
1\/A

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ТҮРЕ	TYPE NUMBER		PHYSICAL CONDITIO	DN			
Mechanical Mixer	2	3789					
List chemicals in the order they are fed at the rapid mix: Coagulant, Potassium Permanganate							
Is adequate mixing of chemicals takin	Yes 🖂	No 🗌					
Are there flow splits after the rapid m	Yes 🖂	No 🗌					
If so, is the flow distribution even? Yes [2]							
COMMENTS:							

FLOCCULATION BASINS						
N/A						
ТҮРЕ	# of TRAINS / STAGES	VARIABLE SPEED DRIVE	VOLUME (gallons)	PHYS COND	ICAL ITION	
	/	Yes 🗌 No 🗌				
	/	Yes 🗌 No 🗌				
List any chemicals fed in the floo	List any chemicals fed in the flocculation process:					
What is the size and appearance	of the floc? Size: <u>N/A</u> & App	bearance: <u>N/A</u>				
How often are flocculation basin	s cleaned?					
Are the flocculation speeds taper	ed (decreased) through the flo	cculation stages?		Yes 🗌	No 🗌	
Are there flow splits after flocculation? Yes 🗌 No						
Is flow distribution even? Yes No					No 🗌	
COMMENTS:						

SEDIMENTATION BASINS							
N/A							
ТҮРЕ	TRAINS / STAGES	VOLUME (gallons)	SQ. FT. AREA PER BASIN	% WITH TUBE SETTLERS	PHYSI CONDI	CAL TION	
Upflow Clarifier	1 / 1	169,194	1,259	None			
Upflow Clarifier	1 / 1	169,194	1,259	None			
List any chemicals fed in the sedin	nentation process:						
What is the sedimentation turbidity	y goal? < <u>1.2</u>						
Where is this sample taken? Top of	of Filter						
What is the overflow rate of the ba	asins? <u>9.7</u> gpm/ft <sup>2</sup>						
If system has an Actiflo process, w	what is the rise rate?						
How often are the basins cleaned?	As needed						
How often is sludge removed from	n the basins? As need	ded					
Sludge removal is: MECHANICA	AL 🛛 or MANUAL						
What was the sludge depth at the t	ime of this inspection	n? <u>N/A</u>					
What was the settled water turbidi	ty at the time of this	inspection?					
Is there evidence of short-circuitin	g (flow or density cu	irrents)?			Yes	No 🗌	

Is baffling present in the basins?

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Yes 🗌 No 🗌

Yes 🗌

No 🗌

If yes, describe the baffling: \_

If multiple sedimentation basins, describe the piping from the basins to the filters:

Is there evidence of floc carryover to the filters?

FILTERS Total Number of Filters: 3								
	Plant flow ra	te divided by tota	l square footage oj	f filters in service	at the time of inspe	ection.		
TYPE	MEDIA TYPE	FILTER RATE (at insp.)	FILTER CONTROL	SURFACE WASH TYPE	FILTER TO WASTE	FILTER AREA	PHYS CONE	SICAL DITION
Conventional	Mixed Media	3.1 gpm/ft <sup>2</sup>	Rate of Flow	Air Scour	Yes	210		
		gpm/ft <sup>2</sup>						
List any chemica	als fed in the filtration	process:						
What is the filter	red water turbidity goa	1? <u>&lt; 0.04</u>						
Does this apply	to the combined filter e	effluent?					Yes 🔀	No 🗌
To individual fil	ter effluents?						Yes 🖂	No 🗌
What criteria are	e used for filter backwa	sh? <u>Daily (midr</u>	night shift), or ba	sed on turbidity	and head loss			
What is the back	What is the backwash rate in gallons per minute? <u>1,660 GPM to &gt; 4,100 GPM</u>							
Is filter backwash rate ramped up and down? Yes 🔀					Yes 🖂	No 🗌		
Is backwash flow rate measured?						Yes 🖂	No 🗌	
Are filters ever b	oumped?						Yes 🗌	No 🖂
Is air scouring u	sed?						Yes 🖂	No 🗌
What was the co	ombined filter effluent	turbidity at time	of inspection?					
Are individual f	ilters monitored for tur	bidity?					Yes 🖂	No 🗌
Are the IFE turb	idimeters calibrated pe	r the manufactu	rer's instructions	? (inspect docur	mentation)		Yes 🖂	No 🗌
Is this turbidity continuously recorded?						Yes 🖂	No 🗌	
Can this data be retrieved in usable form from storage (tape or CDs)? Yes 🖂					No 🗌			
Is filter to waste (rewash) present? Yes 🛛 No [					No 🗌			
Is it used?	Is it used? Yes 🖂 No 🗌						No 🗌	
Can turbidity be measured while filtering to waste? Yes No								
Are flows adjust	ed on remaining in-ser	vice filters duri	ng a backwash?				Yes 🖂	No 🗌
<b>COMMENTS:</b>								

MEMBRANE FILTRATION
N/A
What type of membrane filtration is used? $N/A$
The membrane filtration process is PRESSURE  or VACUUM  driven.
What is the designed membrane flux (flow per unit of membrane area)?

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Are pre-filters used ahead of the membranes?	Yes	No 🗌
Describe the direct integrity testing procedure.		
Describe how membrane breaks are isolated and repaired.		
How are the membranes "backwashed"?		
What type of chemical cleaning is used?		
How is this waste handled?		
Have there been any operational or maintenance issues with the membranes?	Yes 🗌	No 🗌
If yes, explain:		

RESIDUALS HANDLING		
What percent of plant production is used for in-plant processes (backwash, chemical feed, sanitary)? $\underline{2}\%$		
How are spent backwash water and other liquid residuals handled? Lagoons		
If applicable, is the spent backwash holding tank/lagoon volume adequate?	Yes 🖂	No 🗌
Does the plant discharge water from this tank/lagoon back to a body of water?	Yes 🖂	No 🗌
Does the plant have a KPDES discharge permit? If so, what is the permit number? KYG640051	Yes 🖂	No 🗌
Is the discharge meeting permit requirements?	Yes 🖂	No 🗌
Is the discharge point upstream of the intake?	Yes 🗌	No 🖂
If yes, how far upstream is the discharge point from the intake?		
Is spent backwash water recycled?	Yes 🗌	No 🖂
If yes, is the spent backwash water recycled as a: "SLUG" 🗌 or as a CONSTANT FLOW 🗌?		
What percent of the flow is recycled?%		
Are chemical feed rates adjusted during recycling?	Yes 🗌	No 🖂
Are raw water flows adjusted during recycling?	Yes 🗌	No 🖂
Are all recordkeeping requirements of the Filter Backwash Rule being followed?	Yes 🖂	No 🗌
How are solid residuals handled? Land application to HCWD1 property		
COMMENTS:		

CHEMICAL FEED EQUIPMENT						
CHEMICAL NAME	PURPOSE	FEEDER TYPE	FEED POINT	NUMBER & CONDITION		
Polyaluminum Cl/SO4	Coagulation	Metering Pump	Pre Quick/Flash Mix	2		
KMnO4	Taste Odor	Metering Pump	Pre Quick/Flash Mix	2		
Powdered Activated Carbon	Taste Odor	Volumetric	Intake	2		
Hydrofluosilicic Acid	Dental Health	Metering Pump	Clearwell	2		
Caustic Soda	pH Adjustment	Metering Pump	Clearwell	2		

How are chemical feeders calibrate	ited? Sight tubes					
How often are chemical feeders of	alibrated? Daily					
Are chemical dosages calculated	?				Yes 🖂	No 🗌
How often are dosages calculated	l? <u>Daily</u>					
Are chemicals NSF or United La	boratories certified	and approved by DOV	W prior to use?		Yes 🖂	No 🗌
Do the bulk liquid feed systems h	ave day tanks?				Yes 🖂	No 🗌
Are there at least two feeders provided for essential processes (such as coagulation and disinfection)?				ection)?	Yes 🖂	No 🗌
Are spare parts available?					Yes 🖂	No 🗌
Is there enough storage for at least a 30-day supply of chemicals used?					Yes 🖂	No 🗌
Are there containment areas around the chemicals in case of spills or leaks?					Yes 🖂	No 🗌
Are in-plant water supplies protected from backflow (cross connections)?					Yes 🖂	No 🗌
Does a certified tester test backflow prevention devices?					Yes 🖂	No 🗌
If yes: What is the testing freque	ncy? <u>Annually</u>	Last Tested: <u>6/18/20</u>	19			
COMMENTS:						

GAS CHLORINE SAFETY				
N/A				
Is the chlorine room enclosed and separate from other operating areas?	Yes 🖂	No 🗌		
Is there a working exhaust fan in the chlorine room?	Yes 🖂	No 🗌		
Does it provide one complete air change per minute?	Yes 🖂	No 🗌		
Does it exhaust from floor level?	Yes 🖂	No 🗌		
Is intake air near the ceiling?	Yes 🖂	No 🗌		
Is there an external audible and visual alarm?	Yes 🖂	No 🗌		
Are switches located outside the chlorine room?	Yes 🖂	No 🗌		
Are chlorine tanks secured?	Yes 🖂	No 🗌		
Are the scales operational?	Yes 🖂	No 🗌		
Is automatic switchover of chlorine cylinders provided?	Yes 🖂	No 🗌		
Is there a shatterproof viewing window in chlorine room?	Yes 🖂	No 🗌		
Is there a crash bar on the door of the chlorine room?	Yes 🖂	No 🗌		
Does the door open out and to the exterior of the building?	Yes 🖂	No 🗌		
Is there a SCBA unit meeting NIOSH standards outside the chlorine room?	Yes 🗌	No 🖂		
Are personnel trained to use the SCBA?	Yes 🗌	No 🗌		
Is the "buddy system" practiced when changing or moving chlorine cylinders?	Yes 🖂	No 🗌		
Is leak detection provided?	Yes 🖂	No 🗌		
Is ammonia available for chlorine leak detection?	Yes 🖂	No 🗌		
Is there a chlorine tank repair kit?	Yes 🖂	No 🗌		
Are personnel trained and certified to use the kits?	Yes 🖂	No 🗌		

# CHLORINE DIOXIDE SAFETY N/A Many materials will catch fire and burn violently when in contact with chlorite. Is sodium chlorite stored in a separate room? Yes No Is sodium chlorite stored away from organic material? Yes No

GAS (ANHYDROUS) AMMONIA SAFETY				
N/A				
Is the ammonia room enclosed and separate from other operating areas?	Yes 🗌	No 🗌		
Is there a working exhaust fan in the ammonia room?	Yes 🗌	No 🗌		
If there is a working exhaust fan, does it provide one complete air change per minute?	Yes 🗌	No 🗌		
Does the exhaust fan exhaust from ceiling level?	Yes 🗌	No 🗌		
Is intake air near the floor?	Yes 🗌	No 🗌		
Are switches located outside the ammonia room?	Yes 🗌	No 🗌		
Are ammonia tanks secured?	Yes 🗌	No 🗌		
Is there a shatterproof viewing window in ammonia room?	Yes 🗌	No 🗌		
Is there a crash bar on the door of the ammonia room?	Yes 🗌	No 🗌		
Does the ammonia room door open out and to the exterior of the building?	Yes 🗌	No 🗌		
Is there a SCBA unit meeting NIOSH standards outside the ammonia room?	Yes 🗌	No 🗌		
Are personnel trained to use the SCBA?	Yes 🗌	No 🗌		
Is leak detection provided?	Yes 🗌	No 🗌		
If leak detection is provided, is there an external audible and visual alarm?	Yes 🗌	No 🗌		
How are ammonia leaks detected?				
COMMENTS:				

DISINFECTION					
TYPE	APPLICATION POINT	REDUNDANCY AVAILABLE	FEEDER TY	YPE	
Chlorine Gas	Pre-Filter	Yes 🛛 No 🗌	Chlorinato	or	
Chlorine Gas	Pre-Clearwell	Chlorinato	or		
Chloramine	Post-Clearwell	Metering Pump			
What is the means used to measure disinfectant chemical usage? Cl2 sight tubes, LAS sight tubes					
How is the disinfectant residual monitored? Hach CL17 analyzers, grab samples					
Is there an on-line, recording chlorine analyzer on the plant tap (for systems serving >3,300)? Yes 🖾 No [					
Are C-Ts calculated daily?	Yes 🖂 🛛	No 🗌			
COMMENTS: 40% Liquid Ammonium Sulfate added after High Service Pumps					
CLEARWELLS					

VOLUME (gelleng)	BAFFLING TYPE	DISINFECTANT RESIDUAL			
VOLUME (gallons)		TOTAL	FREE		
467,000	Superior (0.7)				
List chemicals in the order in which they are	fed into the clearwell: Causti	c, Chlorine, Fluoride			
If multiple clearwells, are they: IN SERIES (one following the other) or PARALLEL (side by side and not connected)					
Are hatches secured?			Yes 🖂	No 🗌	
Are vents screened? Yes 🖂					
How often are clear wells cleaned? As needed					

WATER PLANT PUMPS						
(Low service/raw water, high service/finished water and backwash)						
FLOW STREAM	LOCATION	NUMBER OF PUMPS	CAPACITY (gpm)	PUMP TYPE	FLOW CONTROL METHOD	
Primary Raw Water	Pirtle Spring	2	1750-2150	Vertical Turbine	Telemetry	
Secondary Raw Source	Gray Lane	1	8000	Vertical Turbine	Telemetry	
Backwash Water	Pirtle Spring WTP	1	4100	Vertical Turbine	Telemetry	
Finished Water	Pirtle Spring WTP	2	2230	Vertical Turbine	Telemetry	
Are documented maintenance and pumping records maintained for all distribution pumping stations? (minimum of pump run times, pump testing, maintenance log)						
Do all pumping facilities have the ability to meet demand with one pump out of service during peak demand? Yes 🛛 No 🗌						
COMMENTS:						

WATER PLANT ON-LINE INSTRUMENTATION					
TYPE	FLOW STREAM (Location)	MANUFACTURER	LAST CALIBRATION DATE		
Chlorine	Clearwell	Hach	8/23/20		
Chlorine	Settled Water	Hach	8/23/20		
Chlorine	Тар	Hach	8/23/20		
Flow	Raw Water	Siemens	4/16/17		
Flow	Тар	Seametrics	4/16/17		
рН	Raw Water	Hach	8/18/20		
рН	Combined Filter Effluent	Hach	8/18/20		
Turbidity	Individual Filter Effluent	Hach	8/18/20		

rurbidity	Combined Filter Efficient	пасп	0/18/20
Turbidity	Combined Filter Effluent	Hach	8/18/20

LABORATORY (PLANT)					
PARAMETERS TESTED	FREQUENCY	EQUIPMENT USED	CALIBRATION METHOD		
Turbidity	Continuous	Hach	Standards		
рН	3x daily	Thermo - Orion	Buffers (4,7,10)		
Alkalinity	3x daily	Titration	Standards		
Hardness	Daily	Titration	Standards		
Fluoride	3x daily	Hach	Standards		
Chlorine	Continuous	Hach	Standards		
Iron	Daily	Hach	Standards		
Free Ammonia	6x daily	Hach	Standards		
Monochloramine	6x daily	Hach	Standards		
Is laboratory space and lighting ad	lequate?		Yes 🖂	No 🗌	
Are analyses conducted according	to approved EPA me	ethods?	Yes 🖂	No 🗌	
Does the lab have SOPs for sampl	Does the lab have SOPs for sample collection, analysis, and reporting? Yes 🛛 No 🗌				
Are daily log sheets used to record day-to-day operations, testing, etc? Yes 🛛 No 🗌					
If daily log sheets are used, are the	If daily log sheets are used, are they: ELECTRONIC (on the computer) 🛛 or HAND-WRITTEN 🗌				
COMMENTS:					

IN-PLANT SAMPLING (for example, top and bottom of filters)				
OUTE -	CHLO	RINE		
SHE	FREE	TOTAL	рн	TURBIDITY
<b>COMMENTS:</b> In-plant sampling was not conducted at the time of the inspection.				

III. DISTRIBUTION SYSTEM/FINISHED WATER STORAGE

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DISTRIBUTION SYSTEM		
Does the system have standard specifications for design and construction of the distribution system?	Yes 🖂	No 🗌
Does the system prohibit new connections where pressure on the discharge side of the meter will be <30 psi?	Yes 🖂	No 🗌
Is the system able to meet minimum pressure requirements of DOW and/or other regulating authority?	Yes 🖂	No 🗌
Does the system have a documented leak detection program?	Yes 🖂	No 🗌
Does the distribution system have a sufficient number of valves to isolate portions of the system (for leak detection, maintenance, etc.)?	Yes 🖂	No 🗌
If there are separate distribution system areas, are they interconnected with each other?	Yes 🖂	No 🗌
If they are not interconnected, how many separate areas are there?		
What prevents these systems from being interconnected?		
How many pressure zones are there? <u>3</u>		
What is the range of distribution pressures? <u>45-150</u>		
Do any distribution areas require reduced pressure valves?	Yes 🖂	No 🗌
What piping materials are included in the distribution system? PVC, Cast Iron, Ductile Iron		
Does the system have a program for flushing water mains?	Yes 🖂	No 🗌
Describe the process for sterilizing new mains/main breaks: <u>Cl2 as per DOW</u>		
What types of on-line instrumentation are located at booster or pump stations and tanks? <u>CL17 (chlorine)</u> , <u>SC5500</u> (chloramine)		
Does the system have a documented program for exercising distribution system valves?	Yes 🖂	No 🗌
Does the system have a documented program for regular testing of water meters including raw water, distributed and customer?	Yes 🛛	No 🗌
Is there a water meter replacement program?	Yes 🖂	No 🗌
Are there main break/emergency notification procedures?	Yes 🗌	No 🗌
<b>Does the system have a documented procedure for issuing a boil water advisory and a consumer advisory?</b> The procedure shall identify when (how soon after the occurrence) and how the system shall notify the affected health department, to whom that notification shall be made both during and after normal business hours, and procedures for issuing the advisory to the public. The public notification shall include instructions for the public (including how to properly boil water) and an explanation of steps being taken to correct the problem.	Yes 🖂	No 🗌
Describe how the decision is made to issue a Boil Water Advisory: <u>As per DOW regulations</u>		
Does the system have a cross-connection control program?	Yes 🖂	No 🗌
If yes, is the cross-connection control program documented in writing?	Yes	No 🗌
If the cross-connection control program is not documented in writing, describe the process for finding and eliminating cross connections:		
Does a certified tester test the backflow prevention devices on a regular basis?	Yes 🗌	No 🗌
Has a calibrated hydraulic model been developed for the system?	Yes 🖂	No 🗌
COMMENTS: Mains are flushed twice annually.		
Interconnected with HCWD1, Ft. Knox, Louisville Water, and HCWD2		

DISTRIBUTION STORAGE FACILITIES						
		Inspected				
LOCATION	VOLUME	TANK TYPE	OVERFLOW	LAST	TELEME	%

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ROAD/AREA	LATITUDE	LONGITUDE	(gallons)		SCREEN/ FLAPPER	>10' FROM TANK	CLEANED/ INSPECTED	-TRY	TURNOVER (Per Day)
Whispering Hills	37.481177	-85.5451111	250,000	Elevated	YES	YES	2017	YES	80%
Longview	37.4714255	-85.5448163	1,200,000	Ground	YES	YES	2017	YES	Not in use
Brizendine	37.4714234	-85.518663	218,000	Elevated	YES	YES	2014	YES	33%
Lincoln Trail	37.4949023	-85.581487	750,000	Elevated	YES	YES	2015	YES	60%
Prichard Tank	37.5315196	-85.5839397	1,250,000	Ground	YES	YES	2016	YES	Varies
Are all storage tanks professionally inspected at least every 5 years (including interior, coating systems, & piping)? How often are tanks: INSPECTED <u>5 yrs</u> and CLEANED <u>5 yrs/as needed</u> ?									
Are all storage tanks and water plants equipped with hatches, covers, screens, vandal guards and locks and all tank Yes No Sites fenced for security?									
Are all hatches,	Are all hatches, screens, and overflows on the storage tanks checked at least monthly? Yes $\boxtimes$ No $\square$						No 🗌		
Is there corrosic	on protection i	n the tanks?						Yes	No 🗌
<b>COMMENTS:</b> Whispering Hills, Brizendine, and Lincoln Trail tanks observed at the time of the inspection. All in good condition.									

#### DISTRIBUTION BOOSTER PUMPS AND/OR BOOSTER DISINFECTION FACILITIES

			Inspected			
	LOCATION		PUMP or	NUMBER &	DISINFECTION	AUXILIARY
ROAD/AREA	LATITUDE	LONGITUDE	DISINFECTION	PUMPS (gpm)	TYPE	POWER
Bldg 4773 Ft. Knox	37.887140	-85.978111	Pump	3 @ 1800		No
2900 Centennial	37.809084	-85.917443	Pump	2 @ 750		No
275 Drake	37.817365	-86.012227	Pump	2 @ 500		No
Bldg 8057, City of West Point	37.981130	-85.962769	Pump	3 @ 1750		Yes
				@		
				@		
				@		
				@		
				@		
				@		

DISTRIBUTION SAMPLING					
(a minimum of N, S, E, W)					
SITE	CHLORINE		all	TUDDIDITY	OTHER
FREE	TOTAL	рн	ΤΟΚΒΙΔΙΤΥ	OTHER	
N - Lincoln Trail		2.8			

S - 1400 Rogersville Rd		2.7				
E - Whispering Hills		2.3				
W - Brizendine		2.3				
Is the system maintaining the required chloring (0.2 mg/l) / chloramine (0.5 mg/l) residuals in the distribution Ves $\nabla$ No						

Is the system maintaining the required chlorine $(0.2 \text{ mg/l})$ / chloramine $(0.5 \text{ mg/l})$ residuals in the distribution	Yes 🖂	No
system?		

**COMMENTS:** Whispering Hills location required flushing before TCR reached acceptable levels. Pre-flush levels were 0.4-0.5 mg/L. DOW suggests a more frequent flushing schedule may be needed in this area.

MAINTENANCE				
Is plant housekeeping adequate?	Yes 🖂	No 🗌		
Is distribution storage housekeeping adequate?	Yes 🖂	No 🗌		
Are adequate supplies of spare parts kept on hand?	Yes 🖂	No 🗌		
Are needed tools available?	Yes 🖂	No 🗌		
If not, is preventive maintenance performed?	Yes 🗌	No 🗌		
Is a lock-out/tag-out system used for electrical repairs?	Yes 🖂	No 🗌		
What is the general condition of operating equipment?				
COMMENTS:				

DOCUMENTATION			
( $\checkmark$ all that apply)			
Samples taken by DEP	Photographs obtained by DEP		
Samples taken by outside source	Copies of records obtained by DEP		
Instrument readings taken by DEP	Other documentation		

### OVERALL TECHNICAL COMPLIANCE STATUS

No Violations Observed		
No Violations Observed - Advisory Action Taken (Impending trends)		
Out of Compliance – Verbal notice given (Non-recurrent deficiency noted or violation corrected at time of inspection.)		
INSPECTOR: Sara Stewart	TITLE: Environmental Inspector	DATE: 9/17/2020