

May 28, 2020

Cedar Glen Condominiums Jill D. Olsen 118 N Conistor Lane, Suite B290 Liberty, MO 64068

UNSATISFACTORY FINDINGS RESPONSE REQUIRED

Dear Jill D. Olsen:

Staff from the Missouri Department of Natural Resources (Department) conducted an inspection on March 20, 2020 of the Cedar Glen Condominiums water system located on Cedar Glen Drive, Camdenton in Camden County. The entity operates under the authority of Cedar Glen Condominiums, MO3071205.

Compliance with Missouri Safe Drinking Water Law was evaluated. The enclosed report is being issued with Unsatisfactory Findings for the violations identified.

Please refer to the enclosed report for details on findings and required actions. A written response documenting actions taken to correct the violations is required by the date specified in the report.

The Department records will document continued noncompliance of the environmental laws and regulations until the required actions are completed. Please understand that ongoing violations may result in a follow-up inspection and additional enforcement actions, including the assessment of monetary penalties.

If you have any questions or would like to schedule a time to meet with Department staff to discuss compliance requirements, please contact Darrell Barber by mail at the Missouri Department of Natural Resources, Central Field Operations, P.O. Box 176, Jefferson City, MO 65102; by phone at (573) 522-3322; or by email at DNRCFO.PDW@dnr.mo.gov.

Sincerely,

CENTRAL FIELD OPERATIONS

Joe Stoops

Environmental Supervisor

Enclosure

c: Public Drinking Water Branch, Monitoring Unit Jim Busch, Missouri Public Service Commission Jim Heppler, Lake Ozark Water & Sewer



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Missouri Department of Natural Resources Central Field Operations Report of Inspection Cedar Glen Condominiums Cedar Glen Drive, Camdenton, Camden County PWS ID# MO3071205 May 28, 2020

Introduction

I, Darrell Barber, of the Missouri Department of Natural Resources' (Department's) Central Field Operations (CFO), conducted a routine Compliance and Operations Inspection of the Cedar Glen Condominiums public water system. The inspection was conducted on March 20, 2020 with the following participants:

Cedar Glen Condominiums

Jim Heppler

Designated Operator

(573) 346-2092

Missouri Department of Natural Resources

Darrell Barber

Environmental Inspector

(573) 522-1853

This inspection was conducted to determine whether the system is operated and maintained in compliance with the Missouri Safe Drinking Water Law and the Missouri Safe Drinking Water Commission Regulations, in accordance with 640.120.5, RSMo. This inspection reviewed all eight critical components of a public water system, as defined by the EPA. Required actions to correct deficiencies found during this inspection, as well as any recommendations, are described in this report.

Entity Description and History

Cedar Glen Condominiums is a community public water system requiring an operator with a Distribution I (DS-I) certification. The system is located at Cedar Glen Drive, Camdenton, Missouri 65020. The water system serves approximately 535 customers through 214 active service connections. This is a primary ground water system with a single state-approved well and a 35,000-gallon hydropneumatic pressure tank. The water system does not provide any treatment of the water.

The last Compliance and Operations inspection of the Cedar Glen Condominiums water system was conducted on August 24, 2017. Other than removing a large tree leaning over the well house, no changes have been made to the water system since that inspection.

The Cedar Glen Condominiums water system is owned by Osage Water Company. The Missouri Public Service Commission (PSC) initiated a receivership case against Osage Water Company over ten years ago, which is still on-going. Osage Water Company, through its PSC appointed receiver, has filed for bankruptcy. The court appointed bankruptcy trustee is currently working with the PSC to sell-off the water systems and other assets of Osage Water Company.

Discussion of Inspection and Observations

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As part of the inspection, I reviewed the files for Cedar Glen Condominiums, MO3071205, including previous inspection reports, correspondence, and the status of the Permit to Dispense to familiarize myself with the requirements specific to this system. Prior to the inspection, I called Jim Heppler with Lake Ozark Water & Sewer to set up the drinking water inspection for Cedar Glen Condominiums; after a brief discussion of the scope of the inspection we set the inspection date for March 20, 2020.

I met Jim Heppler at Cedar Glen Condominiums and reviewed the well (Photograph #1), the 35,000-gallon hydropneumatic pressure tank (Photographs #1, #3, & #4), well house piping (Photograph #1 & #2) and overall condition of the well house (Photographs #3 - #6). During the inspection, I also reviewed the water system's records. As part of the inspection, I collected a routine bacteriological drinking water sample from sample point #02. I delivered the sample to the Camden County Health Department courier location to be analyzed by the Missouri State Public Health Lab.

My observations from the inspection of the Cedar Glen Condominiums public water system are organized according to the eight critical components of public drinking water systems: System Management and Operation, Operator Certification, Monitoring and Reporting, System Source, System Treatment, Pumping Facilities, Finished Water Storage, and Distribution System.

System Management and Operation

The water system has a valid permit to dispense water that was issued on August 23, 2013. However, the system is not adequately maintaining the public water system. Specifically, the exterior of the well house has significant damage caused by rodents (pack rats) or other large vermin (Unsatisfactory Finding #1) (Photographs #5 & #6).

Operator Certification

The chief operator is Jim Heppler; Certification ID# 5092, Distribution System III (DS-III), Treatment C. Lake Ozark Water & Sewer also employs two additional operators, Dawayne Plumb (Certification ID# 10319, DS-II) and Tim Ripley (Certification ID# 15115, DS-I), which can serve as standby operators of the system in the absence of the chief operator.

Monitoring and Reporting

Review Table #1, for the Cedar Glen Condominiums analyte monitoring schedule. The Cedar Glen Condominiums water system has submitted all required monitoring samples during the past 24 months.

	Tab Analyte Monit	le #1 oring Schedule				
Analyte	Number of Sample(s)	Frequency	Next Scheduled Action			
Bacteria	1	Monthly, Wells & Distribution System	Every month, every year			
Nitrate/Nitrite	1	Every year per Well	2020			

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Synthetic Organic Chemicals (SOC)	1	Every six (6) years per Well	2024
Volatile Organic Chemicals (VOC)	1	Every three (3) years per Well	2021
Inorganic Chemicals (IOC)	1	Every three (3) years per Well	2021
Lead & Copper Analysis	10	Every three (3) years from the Distribution System	2021
Radionuclides	1	Every nine (9) years per Well	2024

System Source

The water system is supplied by a single state-approved well. See Tables #2 and #3, below, for the well specifications and appurtenances. The well casing and discharge piping needs to be painted (**Recommendation #1**) and the water system needs to develop a plan for a source of emergency electrical power (**Recommendation #2**). Since the water system serves over 500 people, a second well or water source is recommended (**Recommendation #3**). The well house piping includes sections of solvent-welded PVC pipe greater than two inches in diameter, which does not meet design standards (**Recommendation #4**). As noted above, there is significant damage to the exterior of the well house from rodents (pack rats), or other large vermin, which needs to be addressed before damage is caused to vital water system components (**Unsatisfactory Finding #1**).

	Table #2 Well Specifications									
Well ID	D Installation Date Casing Depth Diameter (in)		Total Depth (ft)	Pump Capacity (gpm)	Pump Type WIMS Record ID Log II					
Well #1	1997	465	6"	665	125	Submersible	00185560	A063337		

Table #3 Well Appurtenances											
Well ID	Breather Vent	Pump to Waste	Sample Tap	Access Hatch	Lightning Protection	Casing 18" above ground level	Isolation Valve	Pressure Gauge	Drawdown Gauge	Check Valve	Master Meter
Well #1	Y	Y	Y	Y	-	Y	Y	Y	Y	Y	Y

System Treatment

The water system does not provide any treatment of the water.

Pumping Facilities

The water system does not utilize booster pumps to provide or maintain system pressure.

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Finished Water Storage

The water system utilizes a single 35,000-gallon hydropneumatic pressure tank to provide storage and maintain system pressure. The use of hydropneumatic storage as the only means of storage is not recommended for systems serving over 50 connections (**Recommendation #5**). The exterior of the 35,000-gallon pressure tank needs to be cleaned and painted (**Recommendation #6**) and the water system needs to establish a tank cleaning and inspection program (**Recommendation #7**). The area around the well house and pressure tank need to be cleared of all trees and brush (**Recommendation #8**).

Distribution System

The distribution system serves 214 condominium units at Cedar Glen Condominiums. Approximately 40 of the connections are unmetered (**Recommendation #9**). The distribution system is not equipped with flush hydrants on the dead-end mains (**Recommendation #10**).

Sampling and Monitoring

During the inspection, I collected a routine bacteriological sample at sampling site #02 located at Building 172. I took the sample to the Camden County Health Department state courier location and it was analyzed at the Missouri State Public Health Lab. The sample tested absent for total coliform bacteria (safe).

Compliance Determination, Violations, and Required Actions

Cedar Glen Condominiums was found to be **out of compliance** with the Missouri Safe Drinking Water Law and the Missouri Safe Drinking Water Commission Regulations, based upon observations made at the time of the inspection.

Unsatisfactory Findings

1. The public water system failed to properly operate and maintain the system, or is inadequate or of defective design, in violation of Safe Drinking Water Regulation 10 CSR 60-4.080(5). Specifically, there are signs of significant rodent activity in and around the well house, including holes in the well house roof and soffit.

The well house should be kept free of contaminants, which could be drawn into the water system via the pressure tank recharge air or other openings. If the Department finds that any public water system is improperly operated, inadequate, of defective design or if the water fails to meet standards established in these rules, the water supplier must implement changes required by the Department.

REQUIRED ACTION: Clean out the well house to remove any unnecessary items that are providing harborage for rodents. Also, seal or repair all exterior openings to eliminate rodent activity inside the well house.

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REQUIRED ACTIONS for item 1 above: The system shall submit a written statement to the CFO by **June 29, 2020**, explaining what actions have been taken to correct the violations and prevent a reoccurrence in the future.

Please submit the required material to Central Field Operations ATTN: Darrell Barber by mail at the Missouri Department of Natural Resources, Central Field Operations, P.O. Box 176, Jefferson City, MO 65102; by phone at (573) 522-1853; or by email at darrell.barber@dnr.mo.gov.

Recommendations

1. The well casing and well house piping was not protected against physical damage.

The well casing and all exposed piping should be protected against deterioration, physical damage, and freezing. Paint the exterior of the well casing and piping to protect it from corrosion.

2. The public water system does not have adequate emergency electrical power.

When power failure would result in cessation of minimum essential service, an alternate power supply should be provided to meet average day demand. Each public water system should have an emergency electrical power source which may include a permanent or portable generator at each well and pump station, a tractor connection at each well or pump station, or service from two power companies.

The Department recommends providing sufficient emergency electrical power to operate all pumps that are essential to maintaining water supply and pressure.

3. The public water system is not supplied from a minimum of two ground water sources and is serving more than 500 people.

The Department recommends a minimum of two sources of ground water be provided to ensure demand is met even when one of the sources is out of service. This recommendation can only be met if the total developed ground water source capacity equals or exceeds the design maximum day demand and equals or exceeds the design average day demand with the largest producing well out of service.

The Department recommends obtaining a construction permit from the Missouri Department of Natural Resources Public Drinking Water Branch and construct an additional well to community public water system standards. To obtain this construction permit, submit two copies of an engineering report, plans, and specifications each bearing the seal of a professional engineer registered in Missouri along with an application for a construction permit to Missouri Department of Natural Resources, Public Drinking Water Branch, P.O Box 176, Jefferson City, Missouri 65102, 573-751-5331.

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4. The water system has piping components that do not comply with AWWA standards. Specifically, the piping in the well house includes sections of four-inch solvent-welded plastic pipe and plastic ball valves.

AWWA standards require all piping larger than two inches to be bolted-flanged mechanical joint, threaded or fusion welded pipe. Plastic piping is more susceptible to failure over time and should be replaced.

The Department recommends replacing the plastic piping in the well house.

5. The use of hydropneumatic storage as the only source of storage is not appropriate for the size of the water system.

Hydropneumatic (pressure) tanks are acceptable as the only storage facilities for small water systems with 50 or fewer connections. The minimum storage capacity for non-hydropneumatic systems, not providing fire protection, shall be equal to the average daily consumption. For other options please refer to the 2013 Minimum Design Standards for Missouri Community Water Systems.

Continued use of hydropneumatic storage as the only means of storage is not recommended. There may be other options that are more appropriate for this system. Please consult your engineer to determine a more specific solution to address your storage needs. A construction permit from the Missouri Department of Natural Resources Public Drinking Water Branch must be obtained to construct the additional storage needed for this community public water system. To obtain this construction permit, submit two copies of an engineering report, plans, and specifications each bearing the seal of a professional engineer registered in Missouri along with an application for a construction permit to Missouri Department of Natural Resources, Public Drinking Water Branch, P.O. Box 176, Jefferson City, Missouri 65102, 573-751-5331.

6. The 35,000-gallon pressure tank needs exterior painting.

Steel tanks without adequate paint coating will quickly deteriorate from corrosion. The tanks must have the exteriors cleaned and painted. If the tank interiors have not been inspected in the past three years, the interiors should be inspected, cleaned, and repainted as necessary. Note that interior paint must be approved by Missouri Department of Natural Resources Public Drinking Water Branch.

The Department recommends cleaning and painting the exterior of the 35,000-gallon pressure tank. If the interior has not been inspected in the past three years, the interior should be inspected, cleaned, and repainted with Missouri Department of Natural Resources Public Drinking Water Branch approved paint as necessary.

7. The public water system does not have an adequate tank interior inspection and cleaning program.

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The public water system should have a tank interior inspection and cleaning program with the following elements: a) Each tank interior should be inspected and cleaned every two to five years depending on silt build up; b) the type and general condition of the interior paint should be determined, especially on any paint that appears to be high in lead or chromium; c) glass-coated interiors should be inspected for cracking, corrosion and other signs of coating deterioration (spalling, cracking, leaking, etc.); d) if rusting is present, determine the approximate percent of rusted area, the extent, nature and depth of pitting, and the condition of the remaining coating (chalking, blistering, loose, blotchy, etc.); and, e) concrete structures should be inspected for signs of deterioration (spalling, cracking, leaking, etc.). All work shall be conducted in a clean and sanitary manner, and all surfaces shall be thoroughly cleaned and disinfected before a storage facility is returned to service. It is the responsibility of the public water system to either conduct or require water quality tests to demonstrate the good sanitary condition of the tank interior before it is returned to service. Follow all environmental laws and rules to dispose of chlorinated water, sludge debris and other wastes.

The Department recommends developing an adequate tank interior inspection and cleaning program.

8. Trees and brush are growing up around the well house and 35,000-gallon pressure tank.

The area around storage tanks should be kept clear of trees, brush and debris to allow access for operation and maintenance activities. Trees in close proximity to storage tanks can cause damage to the exterior coating of the tank due to the branches rubbing against the tank. Excessive overgrowth of brush and weeds can also provide harborage for rodents.

The Department recommends removing the trees and brush around the well house and pressure tank.

9. Each service connection is not individually metered. Specifically, there are approximately 40 service connections that are unmetered.

Individual meters reduce water usage compared to systems with a flat rate, unmetered charge. Customers have an economic incentive to reduce usage and fix leaks. Totaling individual customer meters and comparing with total well pumpage allows the loss due to leakage to be calculated.

The Department recommends installing meters on each service connection.

10. Dead end mains are not equipped with flush hydrants.

All dead end mains should be eliminated by looping where practical. If these cannot be eliminated, each dead end main must be equipped with a flush hydrant to allow stale or contaminated water to be eliminated.

The Department recommends installing flush hydrants at each dead end main.

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Additional Comments/Conclusion

On March 1, 2019, amendments to the Missouri Safe Drinking Water Regulation were implemented which directly affect 10 CSR 60 Chapters 3, 4, 6-9, 11, 13, and 14. Personnel should review these regulation amendments and implement all applicable changes as they apply to the public water system. The amendments can be reviewed here: https://www.sos.mo.gov/adrules/csr/current/10csr/10csr.

The United States Environmental Protection Agency (EPA) reported that the State of Missouri is among the top 25% of states affected by federal flooding declarations. This was noted during a March 31, 2015, webinar on EPA's new *Flood Resilience: A Basic Guide for Water and Wastewater Utilities*, which was hosted by the Association of State Drinking Water Administrators and the EPA. The Flood Resilience Guide is geared towards helping small to medium sized water and wastewater utilities prepare for, and recover from, a flood event. This interactive guide is available online at: https://www.epa.gov/waterutilityresponse/build-flood-resilience-your-water-utility. For more information on emergency planning, visit http://water.epa.gov/infrastructure/watersecurity/emerplan/.

All major water users are required by law to register water use annually. The Department of Natural Resources does not regulate the use of water – only the amount of water a major water user has the potential to use. Missouri shares water resources with many other states, some of which regulate water use and have already established their demand for water. It is important for Missouri to document our need for water and to protect our right to that water. Registering major water use establishes a user's need for water and helps the Department understand the water needs of Missouri citizens. Registration is required by all persons, firms, and corporations with the capacity to withdraw or divert 100,000 gallons or more per day or 70 gallons per minute from any combination of stream, river, lake, well, spring, or other water source. The purpose of sections 71.287 and 256.400 to 256.430 is to ensure the development of information required for the analysis of certain future water resource management needs such as the Missouri State Water Plan. Information about the plan may be found at: http://dnr.mo.gov/mowaterplan/. To register online or for mail-in forms go to: https://dnr.mo.gov/geology/wrc/mwu-forms.htm. For further information or questions, contact the Water Resources Center at (573) 368-2100.

Missouri Public Drinking Water Regulation 10 CSR 60-3.010 requires all public water systems to submit a construction application with engineered plans and specifications to the Department for review and approval prior to any new construction, modification, alteration, or extension of your water system source, treatment, storage, or distribution piping. This requirement includes modifications made to your treatment process that would significantly change or alter plant capacity or treatment processes. Adding, removing, or changing chemical additives and/or their injection locations may significantly alter your treatment process. Water systems must notify the Department at least 60 days in advance of making any changes to the treatment process. Please make sure your water system has written approval prior to beginning any construction or modifications. Permits and construction specifications can be found at: https://dnr.mo.gov/env/wpp/pdwb/permits.htm. For further information or questions, contact the Permits and Engineering Section at (573) 751-5331.

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Missouri Public Drinking Water Regulation 10 CSR 60-7.010(2) requires that public water systems notify the Department within 48 hours of a failure to comply with any regulation or monitoring requirement. Since Regulation 10 CSR 60-4.080(9) requires all public water systems to maintain a minimum pressure of 20 psi, all public water systems must notify the Department when pressures in their system fall below 20 psi.

If you have any questions or would like to schedule a time to meet with Department staff to discuss compliance requirements, please contact Darrell Barber by mail at the Missouri Department of Natural Resources, Central Field Operations, P.O. Box 176, Jefferson City, MO 65102; by phone at (573) 522-1853; or by email at darrell.barber@dnr.mo.gov.

Signatures

SUBMITTED BY:

Darrell Barber Environmental Inspector Central Field Operations **REVIEWED BY:**

Joe Stoops Environmental Supervisor Central Field Operations

Attachments:

Attachment #1 – Photographs #1 - #6 Attachment #2 – System Map Attachment #1 - Photographs Cedar Glen Condominiums May 28, 2020

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Photograph: #1

Taken By: Darrell Barber

Entity: Cedar Glen Condominiums

Permit: MO3071205

Location: Inside Well House

Description: Well, 35,000-gallon pressure tank and

related piping.

Date Taken: March 20, 2020

Program: Public Drinking Water Branch



Photograph: #2

Taken By: Darrell Barber

Entity: Cedar Glen Condominiums

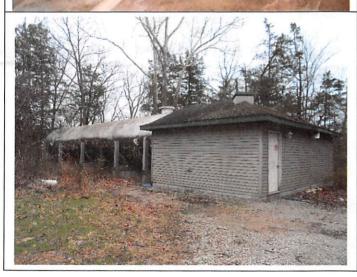
Permit: MO3071205

Location: Inside Well House

Description: Well house piping. Bladder tanks are available for emergency use when large pressure tank is out of service for cleaning or repairs.

Date Taken: March 20, 2020

Program: Public Drinking Water Branch



Photograph: #3

Taken By: Darrell Barber

Entity: Cedar Glen Condominiums

Permit: MO3071205

Location: Outside near Well House

Description: Exterior of 35,000-gallon pressure

tank and well house.

Date Taken: March 20, 2020

Program: Public Drinking Water Branch

Attachment #1 - Photographs Cedar Glen Condominiums May 28, 2020

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Photograph: #4

Taken By: Darrell Barber

Entity: Cedar Glen Condominiums

Permit: MO3071205

Location: Outside near Well House

Description: 35,000-gallon hydropneumatic pressure tank and exterior of well house.

Date Taken: March 20, 2020

Program: Public Drinking Water Branch



Photograph: #5

Taken By: Darrell Barber

Entity: Cedar Glen Condominiums

Permit: MO3071205

Location: Outside near Well House

Description: Rodent damage to soffit and roof of

well house.

Date Taken: March 20, 2020

Program: Public Drinking Water Branch



Photograph: #6

Taken By: Darrell Barber

Entity: Cedar Glen Condominiums

Permit: MO3071205

Location: Outside near Well House

Description: More damage to well house soffit.

Date Taken: March 20, 2020

Program: Public Drinking Water Branch

Attachment #2 – System Map Cedar Glen Condominiums May 28, 2020 Page 1 of 1

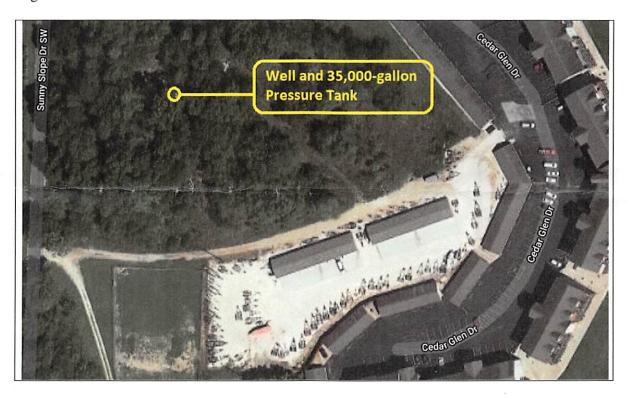


Figure 1: Overhead view of the system. Image taken from Google Maps.