

# HC WATERWORKS, INC.

April 9, 2020

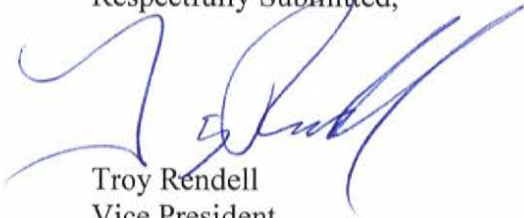
Office of Commission Clerk  
Public Service Commission  
2540 Shumard Oak Blvd.  
Tallahassee, FL 32399

Re: Docket No. 20190166-WU Application for increase in water rates in Highlands County by  
HC Waterworks, Inc. – *Response to Highland County Commission Letter*

Dear Commission Clerk,

Please include the attached Response to Highland County Commission Letter dated April 6,  
2020 in the above referenced docket file.

Respectfully Submitted,



Troy Rendell  
Vice President  
Investor Owned Utilities  
*// for HC Waterworks, Inc.*

# HC WATERWORKS, INC.

April 9, 2020

Honorable Ron Handley, Chairman  
Highlands County Board of County Commissioners  
600 South Commerce Ave.  
Sebring, FL 33870

Re: Docket No. 20190166-WU Application for increase in water rates in Highlands County by HC Waterworks, Inc.

Dear Chairman Handley,

HC Waterworks, Inc. (HCWW) hereby submits its response to the Highland County Board of County Commissioners' letter dated April 6, 2020 from the County Attorney's Office. As you are aware HCWW filed a rate case with the Florida Public Service Commission (FPSC) in order to recover a return on its investment in additional improvements. HCWW has made substantial capital improvements to its water system since the last rate case.

Nearly one-third (1/3) of these investments were due to the Highland County's Lake Josephine Drive road improvement project. On March 28, 2017, Highlands County notified HCWW that it would be required to remove and relocate the water mains located in the right-of-way of Lake Josephine Drive. HCWW inquired as to who would be responsible for the costs to relocate its water main. The County and HCWW met several times and exchanged several correspondences on this matter. HCWW also contacted the FDOT concerning possible financial assistance in the costs of relocation. HCWW subsequently attended the Highlands County Commission Meeting held on May 16, 2017. At that Commission meeting, the utility explained the costs and the impact it would have on its customers. It was explained that if the utility was required to fund the costs of this relocation, this would be passed onto its customer in the form of a rate increase. The Highlands County Commission adopted Resolution No. 16-17-80 at the May 2017 meeting. This resolution required HCWW to relocate its water main at the utility's expense pursuant to Section 337.403(1), Florida Statutes. As a result, HCWW utilized the same contractor completing the road project to relocate and install a new 8" water main on Lake Josephine Drive at a cost of \$511,139. This new water main also included the installation of additional fire hydrants in order to provide improved adequate fire protection to its customers.

The other two-thirds (2/3) of the capital investment relate directly to improvements to the water quality provided to the customers. These two projects involve the addition of forced draft aeration treatment systems to address the historical ongoing issues with hydrogen sulfides. Unfortunately, the ground water source in Highlands County have very high sulfides. The water issues historically experienced is due to several factors. This issue has existed since the original water utility was first placed into service. This raw water source for HCWW's water systems contains naturally occurring constituents, such as iron and sulfides, which at times can cause undesirable color, taste, and odor. Previously, the water treatment plants (WTP) utilized Adedge filters to remove elemental sulfur from the well water. These systems were installed by the

previous owner of the utility, *prior to* HCWW acquiring the utility system. However, these filters are not designed for the removal of the high levels of sulfides in the ground water. The previous treatment systems required oxidation of the hydrogen sulfides by utilizing free chlorine prior to filtration. In addition, to ensure proper treatment, the filters had to be backwashed to remove the sulfur build-up in the filter media. HCWW originally utilized chlorine to assist in the removal process which caused high levels of THM disinfection by products. As a result, the Florida Department of Environmental Protection (FDEP) became involved and directed the utility to address the situation and change the treatment process.

In May 2017, the FDEP requested a meeting with HCWW to discuss the ongoing issues and customer complaints concerning the water quality. HCWW met with the FDEP to discuss its plan to switch the water treatment process at its Lake Josephine water treatment plant to a forced draft aeration treatment system for sulfide removal. This treatment methodology is consistent with the recommended treatment in FDEP Rule 62-555.315(5)(a), F.A.C. The FDEP indicated that it was prepared to issue a Consent Order for the Lake Josephine system if HCWW did not proceed expeditiously to install the required treatment.

In September 2017, HCWW received a construction permit from the FDEP for modification to the existing 300,000 GPD water treatment plant by the addition of a packed tower aeration system for removal of hydrogen sulfide with associated acid and caustic feed systems for pH adjustment. HCWW began construction of the new treatment modification during 2017-2018. The force draft aeration was completed and placed into service in June 2018 and received partial clearance from FDEP. The new hydropneumatic tank was installed in February 2019. The cost of the Lake Josephine aeration project was \$547,979.88.

The new Lake Josephine water treatment system is comprised of:

1. A De Loach packed tower aeration system/forced draft degasification tower sized for a flow of 85 gpm for the removal of hydrogen sulfide.
2. Installation of sulfuric acid chemical feed system for pH adjustment including a 500 gallon double wall containment storage tank and a day tank.
3. Installation of caustic (sodium hydroxide) chemical feed system for pH adjustment including a 200 gallon double wall storage tank and a day tank.
4. Installation of 10,000 gallon hydropneumatic (pressure) tank.
5. All associated piping and injection points.

This proven new treatment methodology is now efficiently removing the majority of the sulfides contained in the raw water source. Forced draft aeration with pH adjustments have proven to remove up to 90% of total sulfides. Unfortunately, the sulfide issue has existed for numerous years, prior to the acquisition of the utility. However, this new treatment has significantly improved the water being provided to the customers.

The final capital project was for the Leisure Lakes (Covered Bridge) water system. On October 1, 2018, HCWW and FDEP entered into a Consent Order. This Consent Order required HCWW to modify and install its water treatment plant consistent with the FDEP Construction permit

issued September 14, 2018. Pursuant to the construction permit, HCWW installed the following water treatment system at its Leisure Lakes water treatment plant:

1. A DeLoach packed tower aeration system/forced draft degasification tower sized for a flow of 200 gpm for the removal of hydrogen sulfide.
2. A sulfuric acid chemical feed system for pH adjustment including a 500-gallon double wall containment storage tank and a 35-gallon vertical translucent day tank.
3. A caustic (sodium hydroxide) chemical feed system for pH adjustment including a 200-gallon double wall storage tank and a 22-gallon vertical translucent day tank.
4. A 4,000-gallon hydropneumatics (pressure) tank.
5. And all associated piping and injection points.

The Consent Order indicates that these water treatment plant modifications must be completed within 365 days of the effective date and submit a Certificate of Completion. The aeration was placed into service in September 2019. The Final Clearance Certificate of Completion of Construction for the aeration was sent to FDEP on September 26, 2019. This project cost was \$582,468.02.

Both the Lake Josephine and Leisure Lakes' forced draft aeration projects were required by the FDEP to address the past TTHM exceedances as well as customer complaints concerning the quality of the water. This pack tower aeration with pH adjustment treatment methodology is consistent with the prescribed treatment in FDEP Rule 62-555.315(5)(a), Florida Administrative Code (FAC). The levels of sulfides in the source ground water are over 3.0 mg/l and therefore rise to the level which requires forced draft aeration with pH adjustment. Pack tower aeration with pH adjustments have proven to remove over 90% of total sulfides. (also see attached design report)

Below is the table from FDEP Chapter 62-555.315(5)(a), FAC:

(a) Provide aeration or other appropriate treatment of the water from the new or altered well to remove total sulfide as necessary. Recommended types of aeration treatment for different water quality ranges are listed in the table below, which is incorporated herein as guidance and not as a requirement. Direct chlorination shall not be used to remove (i.e., oxidize) 0.3 mg/L or more of total sulfide unless the elemental sulfur formed during chlorination is removed.

POTENTIAL FOR IMPACTS WITHOUT TOTAL SULFIDE REMOVAL	WATER QUALITY RANGES	POTENTIAL WATER TREATMENT
Low	Total Sulfide < 0.3 mg/L	Direct Chlorination <sup>2</sup>

	Dissolved Iron < 0.1 mg/L1	
Moderate	0.3 mg/L Total Sulfide 0.6 mg/L @ pH □ 7.2  or  0.3 mg/L Total Sulfide 0.6 mg/L @ pH > 7.2	Conventional Aeration3 (maximum removal efficiency 40-50%)  or  Conventional Aeration with pH Adjustment4,5 (maximum removal efficiency 40-50%)
Significant	0.6 mg/L < Total Sulfide 3.0 mg/L @ pH 7.2  or  0.6 mg/L < Total Sulfide 3.0 mg/L @ pH > 7.2	Forced Draft Aeration3 (maximum removal efficiency 90%)  or  Forced Draft Aeration with pH Adjustment4,5 (maximum removal efficiency 90%)
Very Significant	Total Sulfide > 3.0 mg/L	Packed Tower Aeration with pH Adjustment4,5 (maximum removal efficiency > 90%)
1. High iron content raises concern if chlorination alone is used and significant dissolved oxygen exists in the source water. Filtration may be required to remove particulate iron prior to water distribution.		
2. Direct chlorination of sulfide in water in the pH range normally found in potable sources produces elemental sulfur and increased turbidity. Finished-water turbidity should not be more than two nephelometric turbidity units greater than raw-water turbidity.		
3. Increased dissolved oxygen entrained during aeration may increase corrosivity.		
4. Reduction of alkalinity during pH adjustment and high dissolved oxygen entrained during aeration may increase corrosivity. Corrosion control treatment such as pH adjustment, alkalinity recovery, or use of inhibitors may be required.		
5. High alkalinity will make pH adjustment more costly, and use of other treatment may be in order. Treatment that preserves the natural alkalinity of the source water may enhance the stability of finished water.		

In addition, there were two specific areas in the service area adjacent to Lake Josephine Drive where several customers on two streets were serviced by galvanized iron mains. HCWW has replaced these two mains with PVC piping and tied them into the new main. Since these iron service mains were replaced, the water quality has significantly improved to these customers.

HCWW attended the customer meeting held on February 20, 2020 and is aware of the customer concerns expressed therein. The majority of the complaints were directly related to a required repair made in January 2020 at the Lake Josephine WTP, just prior to the customer meeting. Unfortunately, when the hydro-pneumatic tank was being installed, a contractor hit the existing



HC Waterworks, Inc.  
Response to Highland County Letter  
April 9, 2020

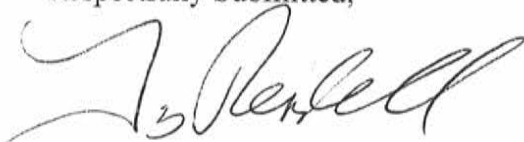
75,000 gallon ground storage tank and caused a hole in the outside wall. A temporary patch was applied until the tank manufacturer could come complete the repair. In order to complete the repair, the entire storage tank had to be drained so the contractor could go inside the tank. In order to make this required repair, the new aeration treatment had to be by-passed. During this time, the hydrogen sulfides were not being removed as a result of the water being bypassed. This caused discolored water to enter into the distribution system while the repair was being made. Once the repair was made, extensive flushing was conducted throughout the distribution system, to flush out the sulfides that entered into the system. HCWW received numerous calls from customer during this event, as the water was discolored until the flushing was completed. The majority of the customer comments made at the customer meeting referenced this January event.

Subsequent to the customer meeting, HCWW sent a Utility Manager to each home on March 9<sup>th</sup> & 10<sup>th</sup> 2020. The vast majority of the customers visited stated that the water had improved and were very appreciative of the in-person follow up visit. The majority of the customers were upset with the water quality back in January at Lake Josephine. The customers subsequently stated that the water had cleared after this January event. The water was clear at all of the customers' residence during the visit in March. Attached is a summary of each home visit.

In addition, HCWW mapped out the complaints and conduct testing in areas where complaints are "clustered." HCWW identified four areas that are in vicinity of the complaints. On April 8, 2020 the Utility Manager went to these areas and pulled secondary water standards samples and took them to an independent certified laboratory in Tampa, FL for processing. The manager again stopped by several of the customers who spoke at the customer meeting and was once again told that the water had greatly improved and continued to be good.

The County's letter stated that the Board requests the Commission require HCWW to remedy deficiencies in the quality of water, prior to entering a Final Order to approve the rate increase. HCWW has provided documentation to support that currently there is nothing further required "to remedy the quality of water" and there are no current "deficiencies." The water is clear and is meeting FDEP standards. The FDEP has acknowledged that HCWW has made substantial capital improvements and has improved the water significantly. Thus, HCWW has significantly improved the quality of water which has existed for several decades.

Respectfully Submitted,



Troy Rendell  
Vice President  
Investor Owned Utilities  
*// for HC Waterworks, Inc.*

Cc: Florida Public Service Commission – Commission Clerk

Docket No. 20190166-WS

Name	Address	Date	Residual	Odor	Color	Piping	Filter/Softener	Comments
Robert Grassman	2712 Oak Beach Blvd	3/10/2020	3.2 mg/l	None	Clear	PVC	Yes	Rain Soft Softener, no one home left door tag
Tamra Mathy	1934 Canary Way	3/9/2020	4	None	Clear	PVC	No	Not home, did not detect any filters, left a door tag
Allison Godfrey	2534 Gresham St.	3/10/2020	4.9 mg/l	None	Clear	PVC	No	Wants to use the well in her yard, suggested she have it sampled for safety reasons prior to doing so, states water sucks.
Douglas Bell	949 Arbor St	3/9/2020	3.9 mg/l	None	Clear	Galvanized	No	States water is improved but sometimes rusty. Informed customer will go on new service line this week, very happy with this.
Peter Macery	2304 Oak Beach Blvd	3/10/2020	5.2 mg/l	None	Clear	PVC	Yes	Have a filter only under kitchen sink, state water has improved, discussed the treatment at the plant and the cost of chemicals etc. were very appreciative of the visit.
Randy Arrowsmith	2431 Oak Beach Blvd	3/10/2020	5.2 mg/l	None	Clear	PVC	Yes	Has a whole house filter and a softener, are part time residents, discussed the treatment at the plant and to watch their pH as they could oversoften and cause the water to be too aggressive, state the quality of the water has improved.
Ted Huguenin	515 Arcola Dr	3/10/2020	5.0 mg/l	None	Clear	PVC	No	Customer states water sucks, caused half his family to have cancer, that we should go to jail, that he was a police officer and knows thieves when he sees them.
Christa Jones	903 Lake Josephine Dr	3/10/2020	3.5 g/l	None	Clear	PVC	No	State water is horrible, too many chemicals, insists her service main is galvanized after I explained we had replaced the galvanized service main several months ago, she did not agree (had it verified that it was in fact changed) Was pretty rude but apologized for being rude when I was leaving
Manny Ernhart	1912 Sentinal Pt.	3/9/2020	4.8 mg/l	None	Clear	PVC	No	Not home, did not detect any filters, left a door tag
Tom Buie	945 Arbor St.	3/9/2020	4.1 mg/l	None	Clear	Galvanized	No	Informed customer will go on new service line this week, very happy with this. Asked if the flush valve will be removed now.
Connie Porter	4403 Briarcliff Ave.	3/10/2020	5.5 mg/l	None	Clear	PVC	No	Say water is much improved, there is a flush valve right at their property line, hoping that the new homes being built will keep the water moving and clear. Discussed the new treatment at the plant.
Carol Kersey	1213 Alexis St.	3/9/2020	4.8 mg/l	None	Clear	PVC	No	Discussed the treatment at the plant, they stated water is much improved and that they drink it all the time, was nice that we cared to stop and check.
Gina VanCoevering	13721 Crow St.	3/9/2020	2.8 mg/l	None	Clear	PVC	No	Not home, did not detect any filters, left a door tag

John Tavano	2122 Oak Beach Blvd.	3/10/2020	4.8 mg/l	None	Clear	PVC	No	Not home, did not detect any filters, left a door tag
Vicki Andeson	2065 Oak Beach Blvd	3/10/2020	5.7 mg/l	None	Clear	PVC	No	States water has an odor when it sits in pipes, went to several rooms and checked the residuals and for odors but did not detect any, the bathroom that is not being used had an odor after water was run but it seemed to come from the drain, not the water itself, cup filled had no odor. Discussed the treatment at the plant, she asked about build up on front load washer (calcium build up, and I told her I cycle white vinegar through mine every once in a while, the calcium is common in FL water, she's going to try that) otherwise water has improved.
Scott Jones	903 Lake Josephine Dr	3/10/2020	3.5 g/l	None	Clear	PVC	No	See Above, wife was home