

Frequently Asked Questions

Q Is H2GO a private utility?

No. H2GO is a governmental, public entity established by the State of North Carolina for the purpose of preserving and promoting the public health and welfare.

Q Is H2GO governed by Leland or by Brunswick County?

No. H2GO is a self-governing public entity with an elected, five member Board of Commissioners. Our regional service area is generally northeast Brunswick County and includes Leland, Belville, parts of Navassa, and customers located outside the limits of these incorporated Towns.

Q Where does H2GO get our water from?

Brunswick County Public Utilities sells wholesale finished water to H2GO, Leland, Navassa, Northwest and about 10 other wholesale customers in southern Brunswick County.

Q How does Brunswick County Public Utilities set wholesale rates to H2GO and other wholesale customers?

Wholesale water rates charged by Brunswick County Public Utilities are based on the Producers Price Index (PPI). The PPI has increased by more nearly 87% since 1985 and is projected to increase another 50% over the next 20 years.

Q Does the PPI for wholesale water rates affect H2GO's retail rates?

Yes. H2GO pays for every gallon of water purchased from Brunswick County Public Utilities. If the PPI and wholesale water rates increase, as they have by nearly 24% over the past 12 years, H2GO passes along those direct cost increases to our customers.

Q Why can't H2GO negotiate better wholesale water rates with Brunswick County Public Utilities?

Wholesale water rates must be consistent for all wholesale water customers. The County has existing wholesale water contracts that require the use of the PPI method to set wholesale water rates. The wholesale water contracts that contain that provision expire in 2020 and until then, the County is unable or unwilling to change to a cost-based rate setting method.

Q If Brunswick County Public Utilities set wholesale rates based on an AWWA cost-based operation and maintenance rate methodology, would it affect H2GO's retail rates?

Brunswick County Public Utilities' officials have stated that the difference in rates between the PPI and the AWWA rate methodology is within pennies. However, if and when Brunswick County Public Utilities moves to an AWWA cost-based rate methodology, wholesale water rates could be directly affected by Brunswick County Public Utilities' capital improvement projects, increased debt service, expanded operations and maintenance, and increased raw water costs charged by Lower Cape Fear Water & Sewer Authority.

Q What is AWWA?

AWWA is the American Water Works Association. awwa.org

Q Where does Brunswick County get their water from?

Brunswick County buys raw water from the Lower Cape Fear Water & Sewer Authority (LCFW&SA), who owns this region's permit to withdraw water from the Cape Fear River. Lower Cape Fear Water & Sewer Authority provides wholesale regional raw water supplies to local governments and industry within a five-county service area comprised of Bladen, Brunswick, Columbus, New Hanover and Pender Counties.

Q Can H2GO purchase and treat raw water from the Cape Fear River?

No. Lower Cape Fear Water & Sewer Authority has previously informed H2GO that lack of capacity in their existing raw water transmission system prevents them from selling raw water allocations to H2GO.

Q Does Lower Cape Fear Water & Sewer Authority have sufficient raw water capacities to supply their wholesale regional customers' future raw water needs?

Not without an expansion of their raw water transmission system. LCFW&SA is planning a \$66 million, 14 mile long, 60" raw water transmission pipe. Inter-local agreements for design of this project have just recently been executed, but no capacity and project cost allocations have been determined, and no timetable for construction of the project has been announced.

Q Does Brunswick County Public Utilities have sufficient treatment capacity to supply H2GO's future water needs?

Not without expanding their surface water treatment plant. Brunswick County Public Utilities has considered a \$30 million expansion of their surface water treatment plant from 24 MGD to 36 MGD, but no timetable for the project has been announced. Brunswick County Public Utilities' plant expansion is also dependent upon the implementation of LCFW&SA's raw water transmission system improvements.

Q Why is H2GO looking to build and operate its own reverse osmosis water treatment facility?

Primarily, to better manage water costs and rates for our customers. For the past 5½ years, H2GO has studied the comparative cost between building a reverse osmosis water treatment facility and continuing to purchase water from Brunswick County Public Utilities. H2GO's team of professional planners, consulting engineers, hydrogeologists, and

financial rate consultants has evaluated, analyzed, and developed detailed technical and financial documentation necessary for H2GO's staff and Board of Commissioners to determine that building a reverse osmosis water treatment facility would be financially beneficial to its customers. The reverse osmosis water treatment facility will not only provide a financial benefit to H2GO's customers, but it will also meet the growing water needs of H2GO's rapidly expanding customer base.

Q Why wouldn't H2GO continue to buy wholesale water from Brunswick County Public Utilities?

The cost to buy wholesale water is now at a point where the annual wholesale water payments to Brunswick County Public Utilities are greater than the annual cost to finance a new reverse osmosis water treatment facility. With H2GO's growing user base, increasing water demands, and an escalating PPI (increasing wholesale water rates), H2GO's wholesale water payments to Brunswick County Public Utilities will continue to increase; and will soon exceed the total cost to finance and operate the reverse osmosis water treatment facility.

Analogy: Renting a house sometimes makes sense; but when the landlord increases the rent and those rent payments get to a point that they exceed mortgage payments, insurance and taxes, it becomes good financial sense to buy the house.

Q What is wrong with the water from the Cape Fear River?

The Cape Fear River does provide a suitable raw water supply for treatment for potable water use; and Brunswick County Public Utilities does provide a good quality finished water to H2GO and other wholesale water customers. As with any surface water supplies, however, the river does have its vulnerabilities. These vulnerabilities include future supply allocations; susceptibility to chemical/toxic spills; 200+ wastewater dischargers upstream; agricultural run-off; algae blooms; emerging unregulated contaminants (pharmaceuticals);

drought; and water quality degradation from the effects of hurricanes.

Q If our current water supplies from the Cape Fear River or from Brunswick County Public Utilities were interrupted, how long could H2GO continue to provide water to its customers?

H2GO has less than a day's average usage in storage. Brunswick County Public Utilities could provide up to 1 million gallons per day via an interconnection agreement with Columbus County. H2GO's current average daily demand is about 1.7 million gallons per day (MGD), and our maximum daily demand has exceeded 3.7 MGD.

Q Is H2GO proposing to build and operate a reverse osmosis water treatment facility just to secure an alternate water source?

No. The decision to move forward with the reverse osmosis water treatment facility is primarily based on the cost of water and the ability to manage expenses for the benefit of our customers' rates. Having an alternate water source associated with our own reverse osmosis water treatment facility will, however, significantly improve water system resiliency for our customers. Although cost of water is the driving force to implement this project, an alternate water source has been a key consideration.

Q What benefit does the plant hold for customers and the community?

The plant will produce high quality finished water for our customers. H2GO customers will not see any water rate increases and the rates should remain at or below current rates for the foreseeable future. The plant will also provide a backup water supply for other communities in cases of critical water shortage emergencies. Deep-well ground water supplies are not vulnerable to surface contamination and other hazards, improving system resiliency for H2GO customers.

Q What backup water supplies to the reverse osmosis treatment facilities will be available to H2GO?

H2GO will maintain interconnections with Brunswick County Public Utilities – beneficial two-way interconnections to improve water system resiliency for both entities.

Q What would happen in the case of a drought?

The Lower Peedee and Black Creek aquifers are deep, confined aquifers. They are not susceptible to drought.

Q How many customers are in the H2GO service area?

H2GO serves approximately 10,000 water customers and nearly 6,000 sewer customers. The historic growth rate for our service area has been about 2.5% annually. Last year, the customer base rose by more than 6% and is forecast to trend at or greater than 3.7% for the next several years. H2GO's customer base is projected to double within the next 25 years.

Q How much water is used in the H2GO service area?

H2GO's average daily demand (ADD) for water is about 1.7 million gallons per day (MGD). The maximum daily demand has exceeded 3.7 MGD. The average daily water demand in the H2GO service area is projected to reach 3.0 MGD by 2035, with maximum daily demands at or above 6 MGD by 2035.

Q What is the capacity of the proposed reverse osmosis water treatment facility?

The reverse osmosis water treatment facility will be designed to produce up to 4.0 MGD of finished water. The plant will be designed to accommodate an expansion to 6.0 MGD and a build-out capacity of 8.0 MGD.

Q What is reverse osmosis (RO)?

Reverse Osmosis (RO) is a form of water treatment where water is pumped under high pressure through membranes to remove impurities from the water.

Q Is reverse osmosis water safe to drink?

Absolutely! Do not confuse unregulated, in-house RO water filter systems with reverse osmosis water produced from municipal treatment systems subject to strict State and Federal water quality standards. In fact, water purified through reverse osmosis is exceedingly high quality water. Brands like Aquafina, Nestle Pure Life and Dasani use reverse osmosis to purify their bottled water.

Q Are there other reverse osmosis treatment facilities in North Carolina?

Yes. Currently, there are 12 operating reverse osmosis treatment facilities in North Carolina. The largest North Carolina RO plant, a 5.20MGD facility in Kill Devil Hills, has been operating since 1989.

Q Where is the proposed site for the reverse osmosis water treatment facility?

The selected project site is located in Belville in the Waterford Business Park on a 34 acre parcel zoned for industrial use.

Q What is the architectural design of the facility?

The building (pictured below) will be an attractive addition to the industrial park. The tan walls and green roof will be compatible with site aesthetics, and the office facade will have coastal design features. The interior space will include a training room which can be used for operator seminars, educational learning, and tours for local school groups.

Q Where will the water come from to be treated by the reverse osmosis facility?

Groundwater from the deep confined Lower Peedee aquifer (300' to 400' deep) and the deep confined

Black Creek aquifer (460' to 600' deep) will supply brackish water supplies to the reverse osmosis (RO) treatment facility.

Q What is brackish groundwater?

Brackish groundwater is water that has a greater dissolved-solids content than occurs in freshwater, but not as much as seawater.

Q Where are the proposed wells to be located?

H2GO has identified 5 potential well sites. Each well site will have two wells installed; one in the Lower Peedee aquifer and one in the Black Creek aquifer. Each well site will be located about 1 mile from next closest well site. The well field will generally run south to north, between US17 and US74/76, east of the new I-140 corridor.

Q What effect will this project have on irrigation wells, community ponds, and storm water retention basins?

None. The production wells to be constructed in the deep confined aquifers will not affect surficial aquifers, shallow unconfined aquifers, or surface water features.

Q What will be the cost of H2GO's proposed reverse osmosis water treatment facility?

The project will require H2GO to secure a revenue bond issue of \$20 million or less. Customer rates for water service at their current rates currently generate revenues sufficient to make annual debt service payments and O&M costs for the project. Annual debt service payments for the bond, equal to or less than annual wholesale water costs, will replace our payments to Brunswick County Public Utilities in the operating budget.

Q How will H2GO pay the annual debt service for a \$20 million revenue bond?

Customer rates for water service currently generate revenues sufficient to make annual debt service payments for the project. Annual debt service

payments for the bond (less than annual wholesale water costs) will replace our payments to Brunswick County Public Utilities in the operating budget.

Q How will the reverse osmosis project affect future capital improvement projects for H2GO's infrastructure?

It will not. Infrastructure improvements and other capital improvement projects are funded from impact fees charged to new residential and commercial service connections.

Q I've heard that it is expensive to operate a reverse osmosis water treatment facility. Is this true?

The reverse osmosis treatment process is power intensive. Electrical usage for pumps and equipment will account for about 30% of the reverse osmosis operating costs. Including labor, power, chemicals, supplies, etc., the estimated operation and maintenance cost of water production will be about \$1.37 for each 1,000 gallons.

Q What chemicals are used in the reverse osmosis process?

Reverse osmosis requires an anti-scalant chemical for pre-treatment upstream of the RO membranes. Post-treatment may include calcium chloride; sodium bicarbonate (baking soda) or carbon dioxide; a corrosion inhibitor; sodium hypochlorite (bleach) for disinfection; and a caustic soda for final pH adjustment. Finished water will meet or exceed all State and Federal water quality standards.

Q Is there any wastewater discharge from an RO plant?

Yes. The reverse osmosis system will require the disposal of the reject brine (concentrate). The concentrate will be pumped to the Brunswick River and discharged under a new NPDES permit issued by the State of North Carolina.



Q Will there be any noise pollution, air pollution, or wastewater pollution from the RO plant?

No, the plant will be rather quiet and with no air pollution.

Q Will there be large trucks coming in and out of the plant constantly?

There will be periodic deliveries to support the operations, and those deliveries will be routed from US17 to Gregory Road.

Q Will the plant create light pollution that will impact the surrounding neighborhoods?

Absolutely not! We have the best interests in mind for our neighbors in close proximity to the existing business park. LED sight lighting will not spill out to adjacent properties.

Q Who will operate the new reverse osmosis water treatment facility?

H2GO will hire water treatment operators certified by the State of North Carolina to operate the reverse osmosis facility and groundwater wells. Existing staff, certified in water distribution and/or wastewater treatment, will be cross-trained under the direct supervision of the certified water plant operators.

Q How will the reverse osmosis project affect my water rates?

The reverse osmosis water project will not affect water rates or irrigation rates. Water rates will be maintained at or below current rates for the foreseeable future.

Q How will the reverse osmosis project affect my sewer rates?

The reverse osmosis water project will not affect sewer rates. H2GO's operating budgets are separate for administration, water distribution, sewage collection, and sewage treatment.

Q How do H2GO water and sewer rates compare to other area utilities?

¹Rate Structures as of August 2016

	<u>H2GO</u>	<u>Leland</u>	<u>CFPUA</u>	<u>BrunsCo PU</u>
Water Base	12.00	15.00	12.91	12.00
Water Usage 0-3,000 gal.	3.50	3.49	3.67	3.05
Water Usage 3K-6,000 gal.	4.00	3.74	3.67	3.05
Water Usage 6K-10,000 gal.	4.00	4.10	3.67	3.10
Water Usage 10K+ gal.	4.00	4.25	3.67	3.10
Sewer Base	12.00	15.00	14.55	39.00
Sewer Usage 0-3,000 gal.	4.71	3.35	4.56	0.00
Sewer Usage 3K-6,000 gal.	4.71	3.61	4.56	6.50
Sewer Usage 6K-10,000 gal.	4.71	4.64	4.56	6.50
Sewer Usage 10K+ gal.	4.71	4.79	4.56	6.50
² Combined Water & Sewer (3,000 gal.)	48.63	50.52	52.15	60.15
³ Irrigation Base	14.00	0.00	0.00	0.00
Irrigation Usage 0-1,000 gal.	4.90	19.76	4.56	3.05
Irrigation 1K-3,000 gal.	4.90	5.02	4.56	3.05
Irrigation Usage 3K-6,000 gal.	4.90	5.02	4.56	3.05
Water Usage 6K-10,000 gal.	4.90	5.27	4.56	3.15
Irrigation Usage 10K+ gal.	4.90	5.53	4.56	3.15

¹ Each utility has a unique operating system, varying operating expenses, and different customer bases with different demand classes; and any rate comparison between any of the utilities is not absolute.

² About 60% of H2GO's customers use 3,000 gallons or less, on an average, each month.

³ Less than 25% of all H2GO customers have separate irrigation meters. 30% of H2GO's annual water demand is from metered irrigation usage.

Q Why does H2GO charge a monthly irrigation base fee year-round?

H2GO's rate consultant, Raftelis Financial Consultants, performed an in-depth rate study of our customer base, water demands, operating expenses, and revenue streams. What they determined was that historically, on an annual basis, metered irrigation water accounts for about 30% of our total annual water usage. To implement and maintain an equitable rate structure, Raftelis recommended that irrigation rates generate 30% of the annual revenues - a % of demand vs. % of revenue rate basis. Irrigation base rates and usage fees are part of this rate structure methodology. Resulting irrigation rates are balanced between low base rates with high usage fees versus year-round base rates with moderate usage fees. Irrigation usage has the biggest impact on peak demands; and because it costs more to construct, operate, and maintain distribution infrastructure to meet peak demands on the system, some might argue that irrigation rates should generate a higher percentage of the annual revenues. While in theory this might be true, we don't believe it to be wholly applicable to our system as many of our customers irrigate through their residential meters and pay corresponding sewer usage fees, thus generating additional revenues to offset the higher operating costs required to meet the peak water demands on the system. There are, however, fixed expenses associated with infrastructure designed and installed to meet peak demands, and year-round base rates ensure those expenses are met regardless of usage.

If you have additional questions or concerns, please contact Bob Walker, Executive Director at 910-371-9949, or via email at bwalker@H2GOonline.com.



ARCHITECTURAL RENDERING OF PROPOSED REVERSE OSMOSIS PLANT

