



NORTH CAROLINA  
*Environmental Quality*

ROY COOPER  
*Governor*

ELIZABETH S. BISER  
*Secretary*

RICHARD E. ROGERS, JR.  
*Director*

February 24, 2023

Warren Mitchell  
Attention: Warren Mitchell  
104 Amber Wood Run  
Chapel Hill, North Carolina 27516

Re: Engineering Plans and Specifications Approval  
Groundwater System  
Morgan Ridge S/D Phase 2 – Potable WS  
Morgan Ridge Subdivision  
Water System No.: NC4019029, Chatham County  
Serial No.: 22-01065

Dear Applicant:

Enclosed please find one copy of the "Application for Approval..." together with one copy of the referenced engineering plans and specifications bearing the Division of Water Resources stamp of approval for the referenced project. These engineering plans and specifications are approved under Division of Water Resources Serial Number 22-01065, dated February 24, 2023.

Engineering plans and specifications prepared by David Barcal, P.E., and Warren Mitchell, P.E., call for the installation of a new public water system consisting of a wellhouse, one (1) well, a greensand filtration system for iron and manganese treatment with a 4,100-gallon backwash water storage tank, sodium hypochlorite addition, soda ash addition for pH adjustment, one 5,400-gallon ASME coded hydropneumatic storage tank with automatic pressure controls, approximately 2,430 feet of 4-inch water main, valves, and other related appurtenances along Black Bear Court and Ivy Ridge Road off Morgan Ridge Way to serve 36 single family lots within the proposed Morgan Ridge Subdivision development in Chapel Hill, Chatham County. The wellhouse will be located on Ivy Ridge Way south of Black Bear Court. The new well will have a 36 gallon per minute (gpm) pumping capacity (205 gpm yield), 357 feet of total dynamic head, 5 horsepower submersible pump. The greensand filtration system will consist of two (2) 30-inch diameter by 54-inch polyethylene pressure vessels. Each vessel will have greensand (depth of approximately 36 inches) and anthracite. The filtration rate will be 5 gpm/sq. ft. The automated backwash system will pull water from backwash water storage tank. Backwash will be discharged on site (deemed permitted for less than 5,000 gallons per week of backwash wastewater from greensand filters provided the backwash does not exceed the Maximum Contaminant Level (MCL) for radionuclides or arsenic, per 15A NCAC 02T .0113).



North Carolina Department of Environmental Quality | Division of Water Resources  
512 North Salisbury Street | 1634 Mail Service Center | Raleigh, North Carolina 27699-1634  
919.707.9100

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Hydropneumatic tanks with a capacity greater than 120 gallons must be constructed and stamped in accordance with the American Society of Mechanical Engineers (ASME) Pressure Vessel Code stamped with the ASME "U" symbol stamp and registered with the National Board of Boiler and Pressure Vessel Inspectors. These tanks must be inspected by the Department of Labor, Boiler Safety Bureau after installation but prior to operation. Please call (919) 707-7918 to schedule an inspection.

Please note that in accordance with 15A NCAC 18C .0309(a), no construction, alteration, or expansion of a water system shall be placed into service or made available for human consumption until the Public Water Supply Section has issued Final Approval. Final Approval will be issued and mailed to the applicant upon receipt of both an Engineer's Certification and an Applicant's Certification submitted in accordance with 15A NCAC 18C .0303 (a) and (c).

These plans and specifications in the foregoing application are approved insofar as the protection of public health is concerned as provided in the rules, standards and criteria adopted under the authority of Chapter 130A-317 of the General Statutes. This approval does not constitute a warranty of the design, construction, or future operation of the water system.

One copy of the "Application for Approval..." and a copy of the plans and specifications with a seal of approval from the department are enclosed. One copy of the documents in a digital format (CD) is being forwarded to our Raleigh Regional Office. The second CD is being retained in our office.

If the Public Water Supply Section can be of further service, please call (919) 707-9100.

Sincerely,

A handwritten signature in black ink, appearing to read "AS Frick", with the word "FOR" written in small capital letters to the right of the signature.

Jay Frick  
Deputy Chief, Public Water Supply Section

JF/AKS

Enclosures: Approval Document

cc: Shawn Guyer, P.E., Raleigh Regional Office  
Miranda Harper, Compliance Services Branch  
Chatham County Health Department  
North Carolina Utilities Commission, Water Division  
Boiler Safety Bureau, Department of Labor  
MacConnell & Associates, P.C.



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