


MEMORANDUM

To: Clark Wright, Davis Hartman Wright PLLC
 Mike Laws, Harkers Island Sewer Company

From: James W. (Bill) Forman, Jr., P.E. 

Subject: Expansion of HISCO Harkers Point wastewater treatment plant to serve the James Creek Subdivision, 80+ - 3 bedroom residential lots (19094).

Date: July 30, 2019

I have prepared this memorandum at the request of Clark Wright in connection with settlement discussions with Pinnacle Bank’s attorneys. This memorandum provides an opinion of the costs associated with expanding the Harkers Point Wastewater treatment plant. The expansion concept includes providing an additional 40,000 GPD treatment and disposal capacity. The plant currently has 40,000 gallons of operating permitted capacity. There is another 20,000 GPD that is permitted but not constructed. The costs provided here would be for construction of that 20,000 GPD plus an additional 20,000 GPD of treatment capacity, and design, permitting and construction of an additional 40,000 gpd of drip irrigation disposal capacity on the WWTP site. That would bring the plant up to 80,000 gpd of total permitted treatment and on-site disposal capacity.

We have estimated the costs associated with expanding the WWTP by 40,000 GPD including wastewater surface drip irrigation in accordance with 15 NCAC 02T .0500. The treatment package was quoted to us by AQWA which markets and installs Advantex systems. Our opinion of the costs is as follows:

Wastewater treatment, 40,000 GPD - \$30 per treated gallon	\$1,200,000
Drip irrigation including upset storage \$5 per treated gallon	\$200,000
Professional fees for soil scientist and Engineering for design, permitting and Construction administration through certification.	<u>\$75,000</u>
Subtotal	\$1,475,000
Contingency (20%)	\$295,000
Project total	\$1,770,000

This opinion of construction costs is prepared by the Engineer and represents his judgement as a design professional and is supplied for the general guidance of the Client. Since the ENGINEER has no control over the cost of labor and materials, or over competitive bidding or market conditions, the ENGINEER does not guarantee the accuracy of this estimate as compared to Contractors bids or actual cost to the CLIENT. The final project costs could be higher or lower than the costs provided here. Sewer collection

and treatment is highly regulated in North Carolina by multiple state environmental protection agencies and the N.C. Utilities Commission. There are potential uncertainties associated with regulatory approval of treatment plant improvements by DHHS and the Division of Water Resources. These uncertainties can result in additional time and expense required to achieve final approval for construction and operations. The work by HISCO done to date in cooperation with DHHS will mitigate many of those uncertainties.

The costs associated with connecting the James Creek subdivision to the HISCO system is discounted because there are no land acquisition costs, and the underground piping infrastructure to convey wastewater from the subdivision to the treatment plant is in place and operational. The collection system inside the subdivision is 95 percent complete and requires only pumps and controls, leak testing and certification in order to be made operational. The developer will bear the costs associated with expanding the treatment plant to accommodate the subdivision. This represents a significant cost and time savings compared to starting fresh to develop those facilities.

Connection of the subdivision of the HISCO system allows for smaller lot sizes and more marketable lots in the subdivision compared to using individual septic systems. Connection also frees up land designated for onsite disposal and a wastewater treatment plant in the original development plan, and keeps the developer and property owners out of the sewer business. Operation and maintenance of modern and dependable sewer collection and treatment systems, including the individual pumping units on each lot, will fall to HISCO, indefinitely.

If you have questions or need additional information, please give me a call.