


To: Michael Hipple
Chairman of the Board of Supervisors

From: Bryan J. Hill 
County Administrator

Subject: Water

Date: August 7, 2015

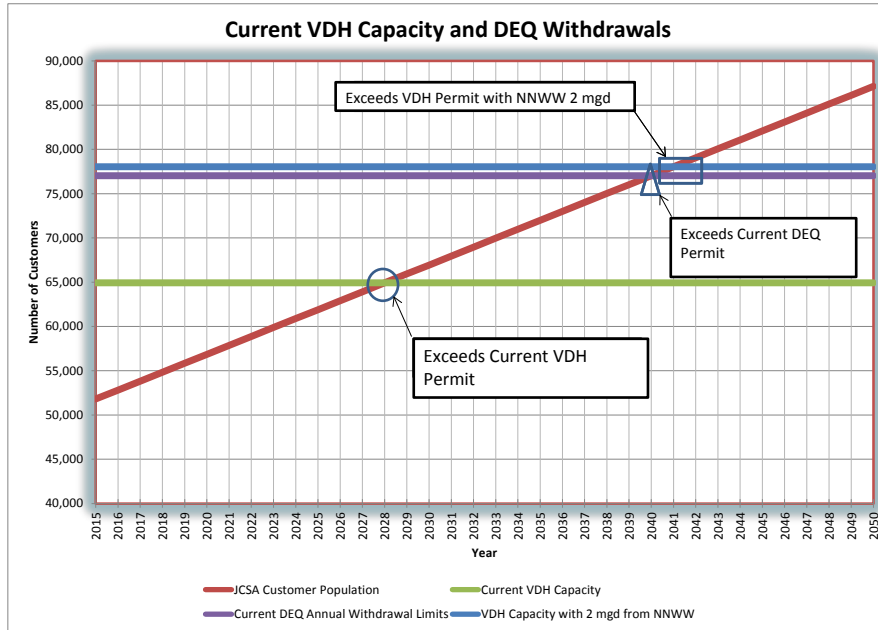
We are in the beginning stages of identifying our future water source, I believe this was one of the areas that our current board wanted exploration and clarity as we developed a plan to move James City County forward with a potential water solution. As we have debated during the budget process, I believe our infrastructure needs throughout the county must be addressed now, thus allowing for a concerted effort of reducing our current debt portfolio which tops \$226 million. James City County and the JCSA must develop an appropriate debt structure with regards to a potential borrowing in the 2023-2025 timeframe. As such, JCSA commissioned a water source study that was recently completed. If the board would like a copy, we will make it available in an electronic format for your review.

Please note, we have shared the abovementioned study with DEQ, and they received it favorably. At their suggestion, a pre-application panel meeting will be held on Monday, August 31st from 10:00 AM to 12:30 PM at DEQ's Central Office in Richmond, to allow a number of state agencies to review and comment on the water source study. Here is what has been done and what we are planning to do during the next 8 years to facilitate this plan.

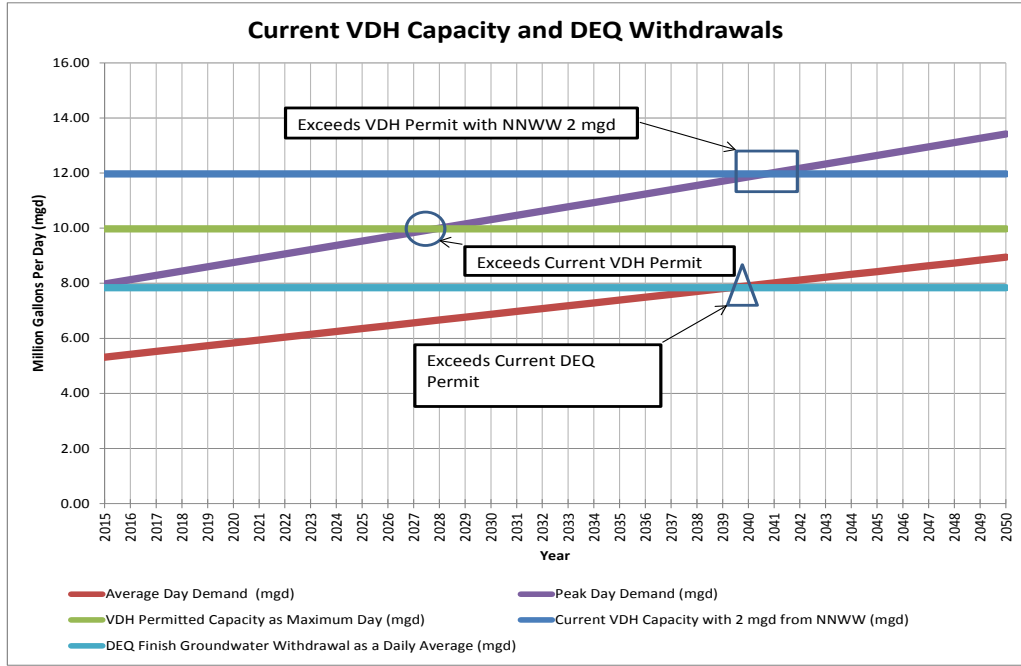
- Water Supply Study conducted by CDM Smith evaluated options for surface water withdrawals and also included demand projections to illustrate the timeframe in which JCSA would be out of compliance with DEQ and VDH permits.
- DEQ permits the source water withdrawal. VDH permits the maximum day treated water capacity of the water system.
- The report assumed an increase of 412 connections per year, which represents a growth rate of slightly less than 2% per year. This estimate is based on historical data, and was the same assumption used in the Rate Study.

- With existing DEQ groundwater withdrawal permit of 8.8 MGD, JCSA would have a water supply deficit based on the VDH permit in 2028. If JCSA bought 2 MGD from Newport News Water Works (NNWW), the deficit would not occur until 2040.
- If DEQ reduced groundwater withdrawal permit to their stated goal 3.8 – 4 MGD, then JCSA has immediate deficits with both DEQ and VDH permits. Even by purchasing 2 MGD from NNWW, there would be deficits with both permits, by 2015 (VDH) and 2017 (DEQ).
- If DEQ reduces the groundwater withdrawal permit to 7.84 MGD and JCSA buys 2 MGD from NNWW, the amount that we project we will need within the next 10-year permit, then JCSA has a deficit with the VDH permit by 2035.
- Therefore, our best estimate is that JCSA will need another water source operational by 2030. Borrowing would be necessary around 2023 – 2025.

To further illustrate the points above we have provided two graphs for your review. The first graph depicts the current VDH capacity versus DEQ withdrawals. The red line delineates our current population as well as projecting a ~2% per year increase of customers (estimate only). Using this matrix JCSA must either acquire water from NNWW by 2027 based on our current permit of 8.8 MGD. VDH requirements preclude permitting to reach above the 80% level of capacity. This dual requirement further exacerbates our water situation.



The second graph details current VDH capacity versus DEQ withdrawals with the red line delineating projected demand.



In 2008, JCSA paid \$25 million to NNWW, financed through a 30 year bond, for the right to buy 4 MGD through 2019. Annual payments of \$1.65 through 2040 million bring total borrowing cost to just under \$50 million. In 2019, JCSA must make another \$25 million payment, adjusted for inflation, to continue to have the right to buy 4 MGD. Staff estimates that the payment would be \$33 million at that time. If this second payment is not made, JCSA would then have the right to buy only 2 MGD.

The infrastructure costs associated with purchasing 2 MGD are around \$4 million. If JCSA were to purchase 4 MGD from NNWW, the infrastructure costs increase dramatically, to an estimated \$15 million. Total projected costs will in our estimation total more than \$100 million without the ability to control the rates for our residents. Please note this figure still does not include the costs to actually buy the treated water from NNWW.

In addition, purchasing 4 MGD from NNWW does not solve our long term water supply issue if DEQ reduced the groundwater withdrawal permit to around 3.8 - 4 MGD, which they have stated is their ultimate goal. Therefore, staff believes the

best course of action is to decline the 2019 option to purchase additional water from NNWW, and use those resources instead to pursue a source of surface water sufficient to meet long term needs.

The pre-application process will provide JCSA an alternative option to solve DEQ demands for reducing the water extraction from the identified aquifers.

I would like the opportunity for you to schedule some time before our pre-application meeting to ensure we are all on the same page.