The Nature Conservancy
Protecting nature. Preserving life.™

2 Maryland Farms
Suite 150
Brentwood, TN 37027

Tel (615) 383-9909
Fax (615) 383-9717

nature.org/tennessee

June 18, 2021

Mr. Robert Baker
Tennessee Department of Environment and Conservation (TDEC)
Division of Water Resources
312 Rosa L. Parks Avenue, 11th Floor
Nashville, TN 37243-1102

Submitted via email to Robert.D.Baker@tn.gov and water.permits@tn.gov

RE: NRS 20.177, Marshall County Board of Public Utilities intake request on the Duck River, an Exceptional Tennessee Water

Dear Mr. Baker:

The Nature Conservancy (TNC) is submitting formal comments regarding the referenced water withdrawal request under the State's Aquatic Resource Alteration Permit. In addition to providing comments to the Department in this letter, TNC formally requests a public hearing on this draft permit. A public hearing on this proposal is critical so that all potentially affected stakeholders in the watershed have an opportunity to hear the facts presented by the applicant in the file in a public forum, and all have the ability to ascertain the impacts of this proposal as well as alternatives to this proposal. The particular segment of the Duck River where the new withdrawal is proposed is absolutely critical to the long-term survival of several endangered fish and freshwater mussel species, a fact which requires additional care and transparency in the decision-making process.

To be clear, TNC supports the environmentally sound utilization of the Duck River resource to provide clean and safe drinking water for the region. TNC has participated in water supply development collaborations in the watershed for over two decades, and TNC has contributed financial and operational resources to help support the application of the best available scientific information in decision-making. Because of this experience and shared investments, TNC knows that to effectively balance municipal water supply development with all other uses - including agricultural withdrawals, wastewater assimilation, recreation, and fish and wildlife habitat - where water supply withdrawals are located on the river and long-term expectations of available river flow volumes to support water supply are critical decisions. These decisions have far-reaching implications - not only on the river resource, but also financially for utilities, their customers, and the investment of tax-payer resources in the construction of treatment and distribution systems.

This letter focuses on three primary concerns with the current draft permit: (1) Insufficient and conflicting information regarding TDEC's calculation of the 7Q10 flow and *de minimis* determination; (2) Lack of notification by the applicant or applicant's representatives to TNC, which maintains a riparian rights interest in the vicinity of the proposed project; and (3) Lack of sufficient advanced public engagement opportunities as in prior Duck River water supply planning efforts, and problems regarding *de minimis* determinations reducing public engagement with full social & economic analyses of alternatives until draft permit submission.

7Q10 calculation and determination of *de minimis* impact

Specific to the potential for water quality impacts in this segment of the Duck River, TNC challenges TDEC's utilization of a constrained period of record, 2003-2018, to determine the 7Q10 flow of 145.33 cubic feet per second (cfs). The information provided in the permit file is also inconsistent as to whether the 7Q10 is 129 cfs or 145.33 cfs (please see Figure 1, copied for reference from permit file materials). TNC notes that the record shows the 145.33 cfs calculation was provided by TDEC. The origin of the 129 cfs calculation provided in December 2019 materials by the applicant and later changed to 145.33 cfs remains uncertain. TNC is aware that in addition to U.S. Geological Survey data from the Milltown river gage, a reconstructed hydrograph over the entire period of record for the Duck River exists and is available to support decision-making.

Given the current and proposed withdrawal amounts in this river segment, noted in the record to be 9 million gallons per day (mgd) or 13.93 cfs, the difference between whether the 7Q10 is 129 cfs or 145 cfs is crucial to the determination of a *de minimis* impact. Utilizing 145 cfs results in a cumulative calculation of 9.6%, just meeting the 10% or under criteria for *de minimis*. Utilizing 129 cfs results in a cumulative calculation of 10.8%, over the allowable criteria for *de minimis.*

In addition, there are inconsistencies in the proposal with respect to the ultimate expected capacity of the Marshall County withdrawal (please see Figures 2, 3 & 4 copied for reference from permit file materials). The revised option still shows a 6 mgd intake capacity in the river, with initial pumping and plant treatment capacity to be designed at 3 mgd (Figure 3). A 6 mgd intake would make the cumulative proposed withdrawals in the segment 12 mgd, or 18.57 cfs, resulting in a 12.7% removal of a 7Q10 calculated at 145.33 cfs or 14.4% removal of a 7Q10 calculated at 129 cfs. Both of those percentages of the potential 7Q10 are over the allowable criteria for *de minimis* determinations. The draft permit itself also leaves in question whether the ultimate expectation of water volume is 3 or 6 mgd.

The inconsistencies in the current *de minimis* determination, the near-term expected flow availability for water supply, and the ultimate withdrawal volume expectations must be addressed in a public hearing. The proposed activity not only has the potential to cause degradation to an Exceptional Tennessee Water in the near-term, it also may set a precedent for an expectation of a flow volume up to 6 mgd and its associated degradation to be justified in the future as the most economically viable solution given the size of the intake as originally built.

The Nature Conservancy
Protecting nature. Preserving life.™

2 Maryland Farms
Suite 150
Brentwood, TN 37027

Tel (615) 383-9909
Fax (615) 383-9717

nature.org/tennessee

Lack of notification to TNC

TNC holds legal interest in riparian corridors in the vicinity of the proposed withdrawal. TNC obtained these interests via conservation easements with willing landowners in order to help ensure the long-term scenic beauty and ecological health of the river along this significant corridor, where the Tennessee Wildlife Resources Agency also has an ownership interest and manages public access points.

As part of our work with landowners near this location, TNC helped bring substantial financial resources to a family and help contain and repair a dairy farm waste management system that had the potential to fail and pollute the river, resulting in environmental damage and financial risks to the family. We have also helped deliver funding to farmers in the nearby Caney Creek watershed and to the City of Lewisburg to help improve the water quality of Big Rock Creek and make it an amenity for the public to enjoy.

At no point in this project preparation or pre-application phase was TNC notified about the potential for this withdrawal and construction project. Although we have not worked directly with the Marshall County Board of Public Utilities (MCBPU) before, TNC's investment in this segment of the river is well-known by the Duck River Agency and its consultants who, the permit record shows, also prepared the application and supporting materials for MCBPU.

The specific location of the proposed withdrawal is not currently available to the public, according to the draft permit notice. Having received no prior notice and relying solely on the public record, TNC does not have the ability to ascertain whether any of the riparian rights the organization maintains will be impacted by this project. A public review of this information will be helpful in allowing TNC to make such a determination.

Lack of sufficient advanced public engagement on project alternatives

Tennessee's anti-degradation statement spells out the specific criteria a proposal must meet to justify degradation beyond *de minimis* to waters, including a full analysis of alternatives. The challenges of the *de minimis* determination in this case have been addressed prior in this letter. It remains important, however, to address how the *de minimis* determination in a permit process can reduce the public's opportunity – including committed public stakeholders like TNC – to engage actively in a transparent discussion of project alternatives.

As previously noted, TNC has been committed to engaging as a productive stakeholder in collaborative water supply and watershed restoration efforts for over twenty years in the Duck River watershed. We participated actively, providing data and funding resources, for the regional

water supply and drought management planning efforts led by the Duck River Agency over the years. TNC was notified by TDEC in June 2020 of TDEC's intent to convene the regional stakeholders again to participate in water quality and quantity studies. The expectation was that TNC would serve once again as a member of a larger, collaborative decision-making process.

Although the permit application materials on file indicate an ongoing review of alternatives by the MCBPU, the MCBPU was not a participant in the original Duck River Agency water supply planning efforts. This prior publicly facing, stakeholder involved effort examined many different alternatives for meeting future demands as well as supply needs in the region. *At no time was a new withdrawal in the Duck River at the location currently proposed by MCBPU part of an active public discussion about regional water supply solutions.*

From the materials in the permit file, pre-application discussions regarding this withdrawal began with state and federal agencies in December 2019. To TNC's knowledge, no public facing information about the proposed withdrawal was available to citizens or non-governmental stakeholders until the original draft permit public notice in October 2020, and the specific location of the withdrawal still unavailable for full review by the public. During this same time period, TNC was actively continuing its support for the State's TNH2O water planning effort, providing financial resources to create public information campaigns, including stories about the Duck River as a case study in successful collaborations.

The timeline and process of this permit application, while following TDEC's guidelines, is not at all like the original Duck River Agency regional water supply planning effort and does not adequately address all stakeholder concerns. In addition, TDEC set an expectation in June 2020 that stakeholders would once again be involved in public discussions of water quality and quantity issues under TDEC's convening. To TNC's knowledge, a convening did not then occur until May 2021, months after the submission of the original draft permit for this new withdrawal.

During the May 2021 convening, TDEC representatives indicated that the permit had been under review and needed to move towards issuance. Moving towards issuance in this circumstance - outside a stakeholder engagement process and avoiding a full public discussion of alternatives – and based on a questionable definition of current and future *de minimis* impact – is not the type of precedent TDEC should be setting for regional collaboration or for decisions regarding the sustainability of a globally significant river resource.

In addition to challenging the *de minimis* determination, TNC requests that during one or more public hearing processes in the immediate future, TDEC allow stakeholders to examine alternatives to the withdrawal proposal at this location. TNC does not agree with TDEC's preliminary determination that the proposed withdrawal is the least impactful practicable alternative. More specific information on the practicability of the alternatives listed in the draft permit, as well as other options, must be made available to the public and publicly discussed.

The Nature Conservancy
Protecting nature. Preserving life.™

2 Maryland Farms
Suite 150
Brentwood, TN 37027

Tel (615) 383-9909
Fax (615) 383-9717

nature.org/tennessee

Conclusion: TDEC should lead with the collaborative promise of the TNH2O state water plan

The four alternatives documented in the draft permit apparently contain varying degrees of engineering, legal, and/or financial practicability for MCBPU and other local utilities to implement. While the Division of Water Resources, under the aquatic resource alteration permit review procedures, may not have direct means of providing solutions to these issues, the Department of Environment and Conservation as a whole does have the capacity to help.

The TNH2O plan outlines many different options for supporting local communities in addressing the challenges they face in designing, funding, building and operating more regionalized water supply systems that provide quality drinking water without straining sensitive river resources or financial bottom lines. TDEC – partnering with other state agencies such as the Department of Economic and Community Development and federal agencies such as the U.S. Department of Agriculture – can assist with the legal and financial resources needed in cases like MCBPU's.

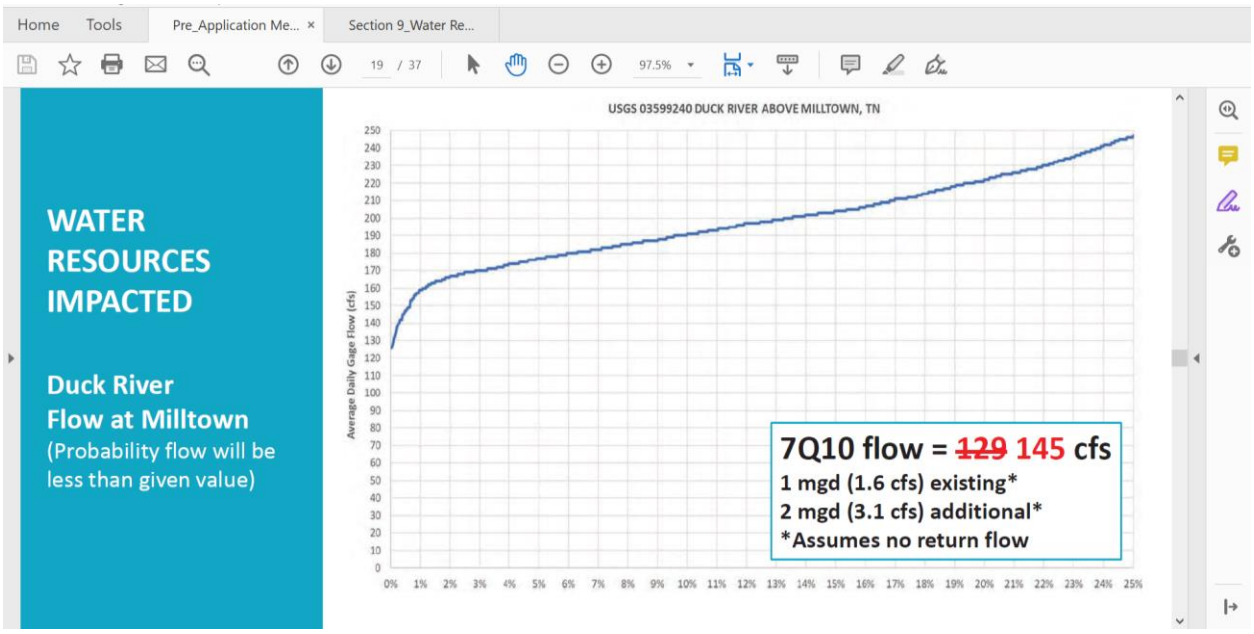
As a partner with the State in writing and implementing TNH2O, TNC believes that a better resolution to these future needs in northern Marshall County, and in the Duck River watershed generally, can be found through transparent public discourse, sound legal and financial arrangements, and innovative engineering solutions. None of this can occur without committed leadership and financial support from state and federal resources.

TNC respectfully requests that TDEC not rely on the constraints of a single permitting process to drive a cascading series of escalating financial and legal investments that can lead to negative impacts on the amazing natural resources of the Duck River in addition to potentially not providing the long-term water supply security MCBPU and other utilities seek to provide their communities into the future. Instead, open this permit process to public discussion and be willing to partner with MCBPU and others – as outlined under TNH2O recommendations – to find more creative and sustainable solutions.

Sincerely,

Sally R. Palmer
Director of Science & Policy
The Nature Conservancy, Tennessee
spalmer@tnc.org

Figure 1. Graph from application file showing different calculations of 7Q10 flow at prospective intake location.



The Nature Conservancy
Protecting nature. Preserving life.™
2 Maryland Farms
Suite 150
Brentwood, TN 37027
Tel (615) 383-9909
Fax (615) 383-9717
nature.org/tennessee

Figure 2. Information from application file showing edits to presumed build out capacity of pumping station and treatment plant.

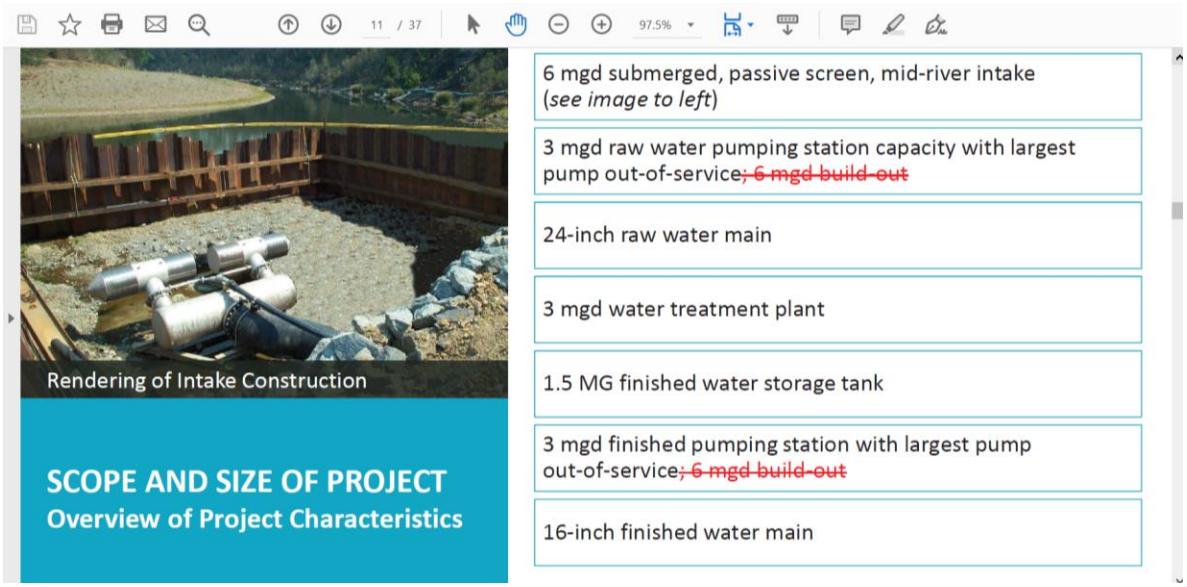


Figure 3. Information from application file showing revised 3 mgd pumping station and plant capacity with 6 mgd intake.

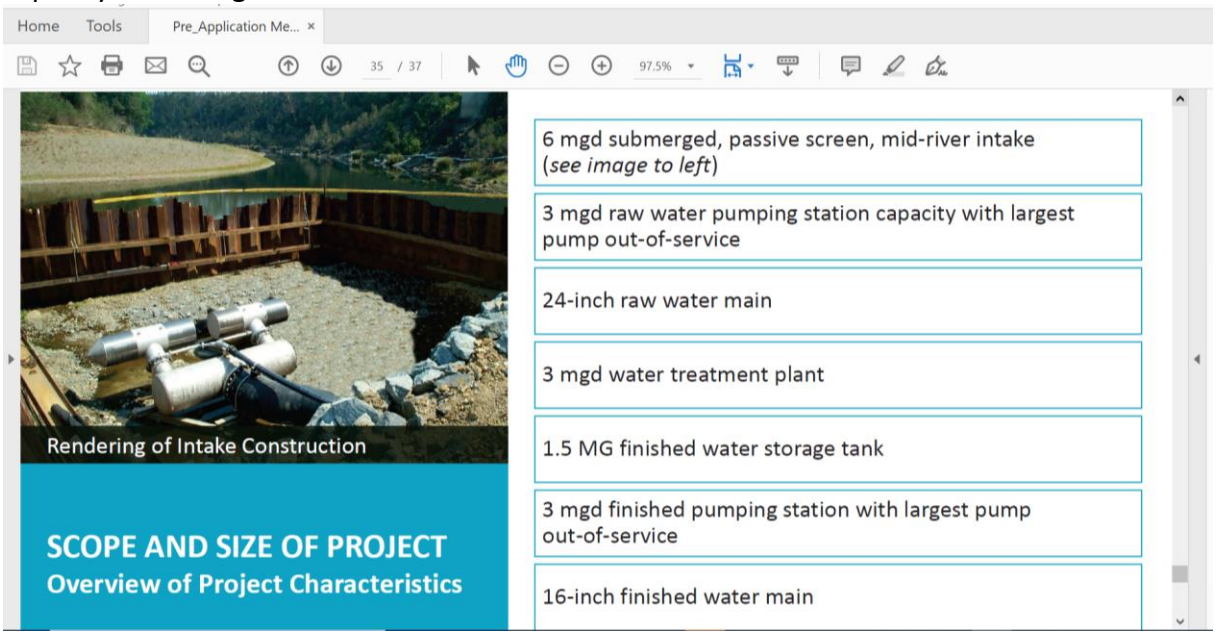


Figure 4. Excerpt from notes on pre-application meeting. See bullet 1 regarding facility size vs. intake build out.

- TDEC asked about the projected water demand and rationale for sizing of facilities for near-term and long-term. TDEC stated that facilities should not be constructed so large that they will not be used, but TDEC will not dictate sizing of facilities in the permit. OBG/Ramboll explained that due to the difficult construction (i.e., cofferdam, tunnel bore) and potential impacts to aquatic life associated with construction of the facilities in and adjacent to the river (i.e., intake screen, pipe from intake screen to the wet well of raw water pumping station and the wet well) these facilities would be sized for buildout (i.e., 6 mgd). The raw water pumping station, water treatment plant (WTP), and treated water pumping station would be sized to withdraw and treat water at the instantaneous rate of 2,100 gpm to meet near-term demands of 1 million gallons per day (mgd) in an 8-hour shift; operation of the WTP would increase up to 24 hours/day to produce 3 mgd (2045 projected demand) while maintaining the 2,100 gpm maximum instantaneous withdrawal rate.
- Chapel Hill's near-term and long-term needs will need to be clearly stated in the permit application (i.e., MCBPU's current and future water supplies to Chapel Hill and Chapel Hill's plans regarding continued use of its groundwater supplies and WTP).
- TDEC has no property ownership stipulations in its permit application and the Corps only requires that the applicant have permission from the owner. TVA clarified that property ownership by the applicant (MCBPU) will not be required at the time of permit application