



PLEASANTS DEVELOPMENT, LLC | 24012 Frederick Rd. | Suite 200 | Clarksburg, MD 20871 | T 301-428-0800 | F 301-428-1736

March 28, 2024

Mayor and Town Council
Mount Airy Town Hall
110 S Main Street
Mount Airy, MD 21771

DELIVERED VIA EMAIL

RE: Mount Airy Crossing Water Demand and Well KZ-5 Capacity

Dear Mayor and Members of the Town Council:

This letter is being sent to you to provide preliminary information regarding water demand for Mt. Airy Crossing based on the Pre-Concept Sketch Plan submitted to you earlier in March 2024 and the status of onsite well KZ-5 capacity based on testing completed as of the date of this letter.

1. In early 2017, Hydra-Terra Group (HTG) was contracted to perform water supply exploration on the Mt. Airy Crossing property. This work included permitting and installation of five (5) test sites for potential production wells and additional sites for observation well installation. The results from preliminary testing of the five potential production well sites indicated a combined potential of 150,000 – 200,000 gallons per day (gpd) developable yield capacity (Ref: HTG letter dated 18 July 2017, attached).
2. During 2023 the Town of Mt. Airy modified several well water-related Ordinances to require a minimum production well yield of 75,000 gpd after certain deductions (Ordinance 2023-40) in order for a well to be accepted into the Town of Mount Airy water distribution system.
3. In late 2023, HTG was again contracted to develop our most viable onsite well KZ-5 into a production well and perform well testing to validate its production yield capacity.
4. In December 2023 well KZ-5 was reconstructed from a test well to a water supply well using 8” diameter heavy wall steel. The well was drilled to 240 feet with water-bearing zones located at 85’ and 150’.
5. In January 2024 automatic data loggers in surrounding wells were set (on-site and off-site) for water level monitoring. The KZ-5 test pump was set at 110 ft depth and a Step-Drawdown Test¹ was then performed at 40 gpm (57,600 gpd), 80 gpm, (115,200 gpd) and 120 gpm (172,800 gpd) steps (graph attached). The 3-day and 30-day long term projections of all 3 steps appear to be above the shallowest water-bearing zone and well above the test pump intake level and capable of meeting the 75,000 gpd minimum yield required by the Town Code.
6. The current estimated Mt. Airy Crossing water demand based on the Pre-Concept Sketch submitted in March 2024 (3rd submittal) is 85,000 gpd. This demand will be finalized

during the next stage of the project development process and provided with the initial submittal of a Mount Airy Crossing Concept Plan. The Step-Drawdown Test result appears able to meet this demand as well.

7. A Testing Plan for Maryland Department of Environment approval for the KZ-5, 3-day and 30-day, pump tests was prepared and submitted. Approval was received this week.
8. HTG will be mobilizing a diesel generator and fuel tank soon to run these tests. HTG will also collect New Source samples (including PFAS/PFOA) before the conclusion of testing. A final report will be prepared and available with submittal of a new Concept Plan after receipt of Pre-Concept Sketch Plan approval.

We trust that the preliminary well water capacity testing information provided herein will further assist you in the Pre-Concept Sketch Plan approval process and enable the project development to continue.

Sincerely,

PLEASANTS DEVELOPMENT, LLC



Clark Wagner, Vice President, Land Acquisition & Entitlement

Enclosures

Footnote 1:

A *step-drawdown test* (or *step test*) is a single-well [pumping test](#) designed to investigate the performance of a pumping well under controlled variable discharge conditions. In a step-drawdown test, the discharge rate in the pumping well is increased from an initially low constant rate through a sequence of pumping intervals (steps) of progressively higher constant rates. Each step is typically of equal duration, lasting from approximately 30 minutes to 2 hours ([Kruseman and de Ridder 1994](#)). Each step should be of sufficient duration to allow dissipation of wellbore storage effects.

In addition to **estimating hydraulic properties** of an aquifer system such as [transmissivity](#) and [hydraulic conductivity](#), the goal of a step-drawdown test is to evaluate well performance criteria such as [well loss](#), [well efficiency](#), [wellbore skin factor](#) and [effective well radius](#).