

Memorandum

To: Dylan Monke
Planner

From: Patrick O'Connell
Engineering Geologist

Date: January 22, 2024

Re: Shadow Mountain Bike Park, Case No. 23-102980RZ

I have reviewed the submitted documents for the subject project. I have the following comments:

1. The site is not within a zoned or unzoned geologic hazard area and reports are not required with the rezoning process.
2. The property is located within the Mountain Ground Water Overlay District. Based the uses (bike park, lodge, maintenance building) on 306 acres, it appears the water requirement will not exceed the 0.28 acre feet per acre per year threshold as described in Section 21 of the LDR. If the water requirement exceeds 0.28 acre feet per acre per year, an Aquifer Test in accordance with Section 21 of the LDR is required with the rezoning application. If the water requirement exceeds 0.10 acre feet per acre per year, an Aquifer Test in accordance with Section 21 of the LDR is required with the SDP application.
3. The applicant had previously submitted a plan that describes the process to obtain legal rights to the water supply, however, the number of guests has been updated (1200 max) and the plan should be updated with the revised values. Adequate legal water rights will be required with the SDP process.
4. The Water Availability Analysis (WAA) has been completed based on water demand requirements listed in the Jefferson County OWTS regulations. The use is unique and a bike park is not listed, therefore, County staff referenced a "camps, day, no meals served" value in the WAA. The value utilized is 15 gallons per day (gpd) per guest (1200 guests based on revised ODP). The value utilized in Stantec's October 23, 2023 Engineering Study was 4 gpd, however, no source data was provided. I discussed this with the applicant's representative. Based on the values and ODP, the estimated consumptive use is ~2.6 af/yr.
5. The Engineering Study should be updated with data/references for the 4 gpd value. The applicant should review the WAA (xls format) and provide data/references for alternative values as appropriate.
6. Grading within the Jefferson County Floodplain Overlay District (flood prone area) will require a separate Floodplain Development Permit.