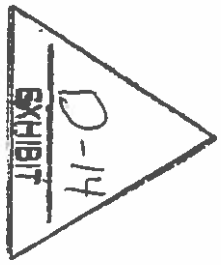
To: Blaine County Planning and Zoning 5-12-21
Topic: Lateral 75 subdivision application

The South Valley Ground Water District (SVGWD) has previously submitted a letter of concern with regard to the Lateral 75 subdivision. SVGWD would also like to submit this detailed look at the water rights and water use on the property. This document should shed light on some of our concerns with the application.

Respectfully,

Justin Stevenson,
SVGWD Director



TO: John Stevenson
FROM: Wendy J. Pabich, Ph.D.
DATE: May 10, 2021
RE: Evaluation of Flying Squirrel Water Rights

Water Rights
Flying Squirrel Productions, LLC, owns two surface water rights (37-510 and 37-685D) and one groundwater right (37-12240) appurtenant to the Gregory Ranch property and ski pond. In February 2021, the owners signed an agreement to purchase five additional water rights yet to be transferred to the property. This transfer is discussed in more detail below.

The details of the two existing surface water rights are as follows:

WATER RIGHT NO. 37-510A
Priority Date: 10/15/1884
Total Acres: 57.4

Beneficial Use	From	To	Diversion Rate	Volume
IRRIGATION	04/15	10/31	2.25 CFS	
RECREATION STORAGE	01/01	12/31		44.7 AFA
DIVERSION TO STORAGE	04/15	10/31	2.8 CFS	
Total Diversion			2.8 CFS	44.7 AFA

A portion of this water right (1.56 cfs or 56%) was placed in the water bank on December 31, 2018, with a term running through December 31, 2023. This leaves 1.24 cfs available for diversion from the Big Wood River.

WATER RIGHT NO. 37-685-D
Priority Date: 10/15/1884
Total Acres: 57.4

Beneficial Use	From	To	Diversion Rate	Volume
IRRIGATION	04/15	10/31	1.28 CFS	
RECREATION STORAGE	01/01	12/31		25.6 AFA
DIVERSION TO STORAGE	04/15	10/31	1.6 CFS	
Total Diversion			1.6 CFS	25.6 AFA

P.O. Box 3814
Hailey, ID 83333
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A portion of this water right (0.89 cfs or 63%) was placed in the water bank on December 31, 2018, with a term running through December 31, 2023. This leaves 0.71 cfs available for diversion from the Big Wood River.

The details of the groundwater right are:

WATER RIGHT NO. 37-12240
Priority Date: 12/31/1960

Beneficial Use	From	To	Diversion Rate	Volume
DOMESTIC	1/01	12/31	0.04 CFS	
Total Diversion			0.04 CFS	

The Conditions of Use limit daily volume to a typical 13,000 gallons per day, despite a diversion rate larger (0.04cfs) than a typical (0.02 cfs) domestic right.

Discussion
Irrigation Limits
The two surface water rights provide a combined volume of 4.4 cfs and are appurtenant to the same parcel of land. Together they carry several Combined Use Limitations constraining total water use at the property:

- The two rights are limited to a combined total irrigation of 57.4 acres.
- Combined volume shall be limited to no more than 3.5 AFA per acre at the field headgate. [With 57.4 acres, this translates to 200.9 AF at the field headgate.]
- Combined recreation storage shall not exceed 70.3 AF.
- Total combined diversion rate is limited to 4.40 cfs.

[Note that until removed from the water bank, only 1.95 cfs of the two surface water rights are available for diversion from the Big Wood, and only when the 1884 water rights are in priority. This also means that only 44% or 88.4 AF of the rights can be diverted at the field headgate while the water is in the water supply bank.] For the purposes of understanding what water may be available to the property and any new development moving forward, the following discussion assumes the water rights are removed from the water bank for use on the property.

Presumably, the amount of water available for irrigation depends upon how the pond is managed (i.e., of the total 200.9 AFA potentially available at the field

headgate, any water used to fill and refill the pond works towards the total volume limit; water available for irrigation would total 200.9 AFA less the pond fill and refill volume.) Discussions with water users provide a rough understanding of pond construction and operation, but further clarification is necessary. In general, the understanding is that the pond was constructed with a liner—perhaps, but not necessarily, bentonite—that seals the pond at depth and may terminate below the water surface an estimated 3-4 feet below pond surface (at full capacity), and that this design allows water to seep into the surrounding sediment and aquifer and for replenishment with clean water during the season. Reports suggest by the end of winter, the water surface often decreases to 3-4 feet below fill elevation.

For the purposes of discussion, if we assume 4 feet of water is lost to the aquifer over each winter, the 5-acre pond would require a minimum refill volume of 20 AFA. Additional water is lost during the irrigation season to evaporation and requires an additional volume of refill water to compensate. Assuming ET of 3.5 AFA for the water surface, which is IDWR standard, an additional 17.5 AFA would be lost to ET. Combined, the pond would require annual refill on the order of 37.5 AFA. This would leave 163.4 AFA available for irrigation.

Assuming landscaping consisting of irrigated turfgrass and a typical seasonal irrigation requirement of 3.5 AFA, this provides water volume sufficient to irrigate 46.7 acres. Any development proposal must limit irrigated acres to something less than 46.7 acres if no additional irrigation water rights are brought to the property. Further, the details of pond construction, seepage and evaporative losses from the pond, and any outflow should be evaluated to produce a water balance for the pond.

The specifics of pond construction and any proposed changes (for example, new docks or other structures built into the pond and/or piercing its liner) must be further clarified, and associated water loss via seepage through the liner and any piercings, consumptive use in the pond, and water balance of the pond and the property as a whole fully evaluated in order that proper conditions of use and appropriate measuring and monitoring be required and implemented for the pond and project. The County should require that transducers are installed at the headgate to the property and at the inflow to the pond.

Water Bank

At present, a *portion* of both water rights (both irrigation and diversion to storage) have been placed in the state water bank. Of the combined total volume of 4.4 cfs, 2.45 cfs has been placed in the bank until 2023, leaving 1.95 cfs currently

available for diversion from the river (or 44% of total rights).

Leased and Purchased Water Rights
In February 2021, the applicant signed a purchase and sales agreement for five surface water rights (37-21849, 37-21866, 37-21883, 37-21900 and 37-21917) from a property in Bellevue Farms (Gower & Dunlap). The purchase is contingent upon a successful application with IDWR to transfer these five rights plus an additional groundwater right (37-21842) from the Bellevue Farms Place of Use to the pond on Flying Squirrel. There is no record in the IDWR files of a purchase and sales agreement for the groundwater right (37-21842). This failure to include the ground water right in the purchase agreement is problematic as the stack of rights all have combined use limitations for no more than 5 acres and cannot be legally separated. This stack of water rights totals 0.375 cfs and/or 11.6 AFA for use on 5 acres. Surface water rights total 0.275 cfs with an additional 0.1 cfs in the groundwater right.

All six rights are currently in the water bank with a term that runs from 12/31/2016-12/30/2021. The water right owners have submitted an application to IDWR to transfer the six rights to the Place of Use (POU) at Flying Squirrel, despite the fact that they do not own the POU.

At the same time, the owners of Flying Squirrel have applied to the water bank to lease these same water rights from the water bank for the current irrigation season in order to fill and store water in the recreational pond on the property during times when the two existing surface water rights are out of priority. IDWR has placed the lease application on hold pending the outcome of the transfer request current before the Department. The transfer application has been advertised, Wood River Valley Irrigation District 45 and Water District 37 were recently notified, and protests are due by May 10, 2021.

Potential concerns about the proposed transfer include:

- **Change in Point of Diversion:** Delivery to Flying Squirrel rather than Bellevue Farms will necessitate the water be delivered through Lateral 75 rather than along Gannett Road as it has been. This raises the question of whether loss of carriage water poses a problem for any and all water users along Gannett Road.
- **Potential Forfeiture:** Resurrection of unused, and potentially forfeited, water rights serves to increase pressure on a substantially overallocated resource. The surface water rights were decreed 3/31/2010 and the groundwater right was decreed on 9/24/2010. All were placed in the water bank on 12/31/2016,

after the surface water rights went unused for seven irrigation seasons and the groundwater right went unused for six seasons. Review of 2011, 2013, and 2015 aerial photographs show very limited irrigation at the Place of Use, suggesting these water rights are potentially subject to forfeiture for lack of use during this six to seven-year period. Figure 1. shows the 2013 aerial photo of the property as an example. A protest to the transfer has been filed with IDWR asserting these deficiencies and that the rights were forfeited prior to placement in the water bank. It should be noted that these water rights have lain fallow for an extensive period of time. In any case, resurrecting them will further burden the system.

- **Use of Groundwater:** The use of groundwater to serve what has historically been served by surface water rights is an ongoing problem as, in practice, it often leads to extended and lightly monitored use of a steady supply of groundwater rather than the more extensive administration of variable surface water rights. Transferring the Nature of Use of groundwater irrigation right 37-21842 (0.1 cfs 9/25/1954) to Diversion to Storage and Recreation Storage, along with extending the Period of Use of the Recreation Storage portion of the right from irrigation seasonal use to year-round storage totaling 11.6 AFA opens up the possibility for increase in total water use, as without proper monitoring, in practice, the pond could be refilled repeatedly (whether or not it complies with water rights restrictions). Further, extension of the Period of Use from seasonal to annual dictates the Department correspondingly reduce the flow rate of these water rights in order that no expansion in use occurs. These issues are further compounded by potential resurrection of a groundwater right that may have been subject to forfeiture.

The Applicant should be required to run the appropriate hydrologic models and to demonstrate that no injury will result from the transfer. And, if the transfer is allowed, appropriate measuring and monitoring should be required at the diversion from the Big Wood River and both the inflow and outflow points of the pond to ensure that volumetric limits are not exceeded. These requirements should also be imposed as part of any development agreement.

Estimated Gross Surface Water Requirements

Canal losses along the District Canal are estimated to be 15% from the headgate to the east-west split with another 5% per mile thereafter (Brockway Engineering 1997). The Flying Squirrel property is roughly 1.86 miles from the east west split. Based on these coefficients, water losses from the diversion at the Big Wood River to the headgate at the property total roughly 24.3% (15% to the E-W split + 9.3% from E-W split to property). Under these conditions, an estimated 3.33 cfs will be delivered to the property headgate. The same losses applied to the

proposed transfer rights (0.275 cfs of surface water) would deliver an additional 0.136 cfs to the property headgate for a total of 3.47 cfs. Care should be taken to ensure that total water demand for both the pond and subdivision does not exceed this flow rate.

Subdivision Water Demand

This analysis focuses on the water volumes allowed by the given set of water rights. This does not in any way speak to the potential water demand of a subdivision, which would require further analysis. Though it was difficult to discern due to its scale, the plat plan for the subdivision appears to show 23 residential lots, with acreages ranging from 1.0 to 4.12 acres each, for total area of approximately 38.82 acres. Two additional lots totaling 22.57 acres appear to be reserved for common areas, including the ski pond. Together these platted lots total 61.42 acres. The County should require a thorough water demand analysis of any development proposal and take care to require appropriate landscape limits (acreage, planting requirements, irrigation efficiency, etc.) and water use measurements and reporting.

Figure 1. 2013 Aerial photograph showing limited use, Place of Use, Gower & Dunlap water rights.