

## Tioga Inn Comments

June 29, 2020

Mono County Board of Supervisors

P.O. Box 715

Bridgeport, CA 93517

To: Honorable Supervisors

I, Susan Burak, am writing today to document my concerns regarding water supply issues with the proposed Tioga Inn Project. I am a hydrologist with experience in groundwater/surface water interactions.

The two wells that are expected to supply water for the project have limited capacity. Well 1 has a completed depth of 600 feet. Static water levels are 340 feet down from the top of the well casing, leaving a 260-foot column of water in the well. A four-hour pump test at 150 gallons per minute drew the water column down 210 feet, to a depth of 550 feet in a 600 foot well. The drillers log does not provide the depth of the well pump- typically a pump is located well above the bottom of the well. In this case, if the pump was located 25 feet above the bottom of the well, the column of water that would be available for use is only 25 feet.

The second well has similar characteristics and drawdown after a 10-hour pump test was 255 feet. The water level in well 2 after the pump test was close to the bottom of the well. There is no information on recharge rate on both wells. Knowing how much time is required for water levels to return to static levels is key for managing pumping rate as well as simply knowing there is enough water to supply the project. The fact that water levels in both wells fell to close to the bottom of each well requires further study to determine if the wells are capable of providing total annual water demand as well as providing water for irrigation. Assuming the wells will provide irrigation water while the wastewater treatment facility is being built must be include the calculations used to estimate annual and maximum water demand projections.

The total annual water demand for the project is estimated to be about 37 AFY. There is no data on how this number was calculated; estimates of the maximum water demand at build out are also lacking. The capacity of the wastewater treatment system is reported to be 46 AFY, therefore the SEIR should assume a maximum annual demand of 46 AFY.

While treated wastewater is planned for “most” of the outside irrigation, well water will augment wastewater. Outside irrigation is expected to use up to 60,000 gpd. Assuming the outside irrigation season is May through the end of September, approximately 27 AF will be used by outside irrigation. “Most” of this irrigation water will be treated waste water. Details as to the

volume of well water required to irrigate during project construction is essential because the wells may not have the capacity to provide water for the project and outside irrigation without negative effects on Lee Vining Creek.

Longer duration constant rate drawdown tests (12 to 24 hours) coupled with recovery tests are needed to provide short- and long-term drawdown estimates, pump setting and recharge of the pumped well. Information from these tests are necessary to determine pumping limits and to draw informed conclusions on the possible interactions with Lee Vining Creek. The flow values given in the SEIR are optimistic (25 cfs) and do not reflect the range of measured flows of 10 to 25 cfs. A more detailed analysis would be necessary to determine how much, if any, stream depletion occurs from Lee Vining Creek as a result of pumping the project's wells. During the growing season, Lee Vining Creek flows have been recorded as low as 15 cfs, and as low as 10 cfs in winter. Flow measurements are taken below the LADWP diversion dam.

The effect on the creek would be determined by the change in the gradient of the groundwater surface elevation adjacent to the creek. Longer duration pump tests are needed to evaluate the impacts on both the water supply wells and Lee Vining Creek. Until further studies are completed, strict pumping limits need to be included during low flow times of the year. Longer duration pump test information, documenting drawdown and recharge in the two wells and recording the water surface elevation in the creek will provide the information needed to characterize the magnitude of the impact of this project.

Without additional pump tests and a knowledge of the recharge rate, there is a high level of uncertainty regarding the capacity of the wells to supply the project and minimize or eliminate impacts on Lee Vining Creek.

In general, the project would be improved with an overall reduction in size that would make the visual and environmental impacts less obtrusive and aligned with the scenic values of the Mono Basin.

Respectfully,

Sue Burak