



J-U-B ENGINEERS, INC.

J-U-B COMPANIES



THE  
LANGDON  
GROUP



GATEWAY  
MAPPING  
INC.

September 24, 2011

Mayor Mike Hall and City Council  
City of Richmond  
6 West Main  
Richmond, Utah 84333

Re: Proposed Ski Resort, Cherry Creek Canyon,  
Follow-up to Memo of February 23, 2010

Dear Mayor and City Council,

This letter serves as a follow-up to my prior memo of 2010 on this subject, and I would refer you to that document. The project proponent has provided additional information in the interim in an effort to address some of the issues raised in that memo. Though they have responded to the issues, I am of the opinion that concerns still exist that must be addressed to the satisfaction of the Council.

Protection of Richmond's culinary water supply sources is critical. They are located near and around the resort and consist of 3 springs and 1 well. There are also private single family wells in the area. Though the spring sources are up-gradient of the resort, their proximity to the ski runs puts them at risk. The 3 spring sources should be fenced in order to prevent people from entering the area, and should be maintained in good repair by the resort. However, the city's well is down-gradient of the ski resort and the proposed on-site wastewater treatment system. The resort and treatment system fall within the source protection zones for the well (2010, Utah Geological Survey, UGS). There are also private wells down gradient of the resort. Additionally, during the presentation of the source protection report to the City Council, the UGS discussed the shallow nature and interconnectivity of the aquifer in the area of the City's springs and well. This concern has arisen again during our current investigation into the feasibility of re-locating the existing well closer to the site of the soon to be constructed Cherry Creek Tank by the hydro geologist.

While the project proponent claims that the wastewater treatment system is approved for use in source protection zones, this type of system will require near full time oversight, may be prone to upsets due to the large fluctuations in flows, and may actually need to be oversized in order to handle the fluctuations. It is also possible that by the time an upset is detected, the problem may have been occurring for some time. If discharge limits are exceeded, then the proponent is required to submit a corrective action plan to the State. However by that time, and until the corrective action takes place, the water sources may have already been compromised. Also, since the system will discharge to groundwater, it is highly likely that the nitrogen concentration in the effluent will have to be less than 10 mg/l, which will add more treatment and complexity to the system. The discharge requirements should be detailed in the resort's State of Utah and/or Health Department discharge permit. There are also State design requirements which will have to be monitored and verified, as well as confirmation of the projected wastewater

quantities. In an effort to provide the best possible protection to the City's water supply as well as private supplies in the area, I strongly recommend that the resort be required to connect to Richmond City's wastewater system.

As mentioned in my prior memo, storm water runoff from the parking areas and resort is a concern. Pollutants from the cars and operations will be washed into the ponds, stream, etc. as well as percolate into the ground. As with waste water, storm water could affect the groundwater supply. At this time, the primary concern lies with the waste water treatment system.

A concern still exists related the City's water transmission line. The water line is under the current gravel/dirt road. Modifications in the elevation of the roadway are likely to jeopardize the line. Too little of soil cover will subject the line to freezing. Too much soil cover may make the line hard to repair or maintain in the future. The proponent shall be required to coordinate with the City during design and construction and be required to bear all costs associated with relocation, re-construction and repair of the line.

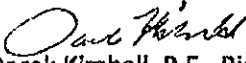
Traffic, roadway and pedestrian issues still need to be addressed. While the results of the traffic study show that the resort would cause an increase in traffic equivalent to a medium sized subdivision, issues with roadway width, condition and long term maintenance still exist. Also, though the estimated increase in traffic is as stated, it is something Richmond has not anticipated and therefore has not planned, nor installed facilities for. Normally, the costs of such improvements would be incumbent on the developer. 500 North (Cherry Creek Canyon road) within the City limits is narrow, lacks an adequate shoulder and is quite steep. This is a concern in the winter, as there is not adequate width to pass vehicles or provide a shoulder for emergencies such as disabled and/or sliding/uncontrolled vehicles. Additionally, there are no pedestrian facilities on this section of roadway. 300 East within the City is also a narrow road. Though it meets the minimum widths per the study, it too lacks a shoulder for emergencies. Also, as with 500 North, there are no pedestrian facilities along this roadway. The condition of 300 East is also very poor, particularly the north bound lane from ~ 275 North to 500 North. The southbound lane is in better condition, but is also deteriorating. This section is in constant need of repair, and should be rebuilt. The increase in wintertime traffic will result in increased frequency of maintenance and repair. Additionally, repairs will likely be required during wintertime, the most difficult season to perform such repairs. I recommend that the project proponent be required to widen 500 North and provide paved shoulders of adequate width to meet clear zone and emergency requirements. I also recommend that the proponent be required to rebuild the northbound lane of 300 East, and repave or possibly rebuild the southbound lane. Additionally, pedestrian travel in the area is a significant concern since pedestrians currently walk in the roadway. I recommend that the proponent be required to install sidewalk along 300 East from 50 North to 500 North. At this time, pedestrian traffic volumes on 500 North do not warrant a sidewalk on the 500 North section.

Along with the items discussed above, I also recommend that the City address in detail the issue of emergency and fire response. The proponent needs to understand Richmond's limitations and restrictions in response to situations.

Additionally, as mentioned in the prior memo, source water upstream of the existing concrete (Main Street) storage tank and upstream of the future (2012) Cherry Creek storage tank is not treated. The water connections in the area of the proposed resort are not treated. The proponent would be responsible for the treatment and monitoring of any water they use for culinary purposes. Also, measures need to be taken by the proponent to provide proper backflow and cross connection prevention at the connections. I would also recommend that the connections be allowed to "free flow", and not to be pumped from the mainline.

If you have any questions, please call me.

Sincerely,  
J-U-B ENGINEERS, Inc.

  
Darek Kimball, P.E., Richmond City Engineer