From: Walter Auerbach
To: Yumie Dahn
Cc: Jon Mitchell; Jake Hudson (Email); NDoherty@bwslaw.com
Subject: Tahoe Donner Lodge
Date: Wednesday, November 8, 2023 11:11:38 AM

Yumi,

We have been requested to provide some additional clarification and backup regarding the calculations of groundwater flow expected from the project under various scenarios.

The original estimate came from a calculation Jake Hudson, the geotechnical engineer, prepared for the new lodge basement on September 27, and the units of flow were inadvertently reported as gallons per hour (GPH) when they should have been gallons per minute (GPM). Nevertheless, our conclusions remain the same.

To assist the Town in understanding this topic, we have fully bracketed hypothetical flow rates at the site for both the temporary construction and permanent foundation drains. The below hypothetical flow rates are based on more conservative assumptions about groundwater levels and soil permeability.

While these are not the conditions at the site that we observed during our investigations, they reflect an extreme factor of safety for the purposes of the design of temporary dewatering facilities and for the design of permanent foundation drains. The wide range of hypothetical flow rates represented here is largely the result of applying a wide range of potential permeability for these specific soils which can vary by a factor of ten.

Expected groundwater flow rates are as follows, based on low estimates and high estimates of groundwater elevation:

	LOW	HIGH
	GPM	GPM
Temporary Dewatering	2	17

Facilities		
Foundation Drains-Existing Building	0.4	20
Foundation Drains-Proposed Building	1.9	20

The above does not change our conclusions regarding expected flow rates for either the temporary or permanent drainage systems.

We are confident that we can disburse the volume of water during the temporary construction dewatering in accordance with our draft dewatering plan. In addition, the temporary construction dewatering discharge rates will decrease relatively rapidly, to a level that is very similar to what is occurring now through the existing foundation drainage system.

The hypothetical proposed foundation drainage flow is similar to that being discharged by the existing foundation drainage system. We are not significantly changing the groundwater hydrology at the site. The anticipated groundwater conditions during construction and operation of the building are consistent with many other projects we have been involved with in the region.

We hope this addresses your needs for now.

Walter R. Auerbach, P.E.
President
Auerbach Engineering Corp.
P: 530-214-3097
C: 530-448-1231