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Folder # 3

# VALLEY CAMP OF UTAH, INC.

Scofield Route  
Helper, Utah 84526

0038

27 July 1984

RECEIVED

JUL 30 1984

DIVISION OF OIL  
GAS & MINING

Mr. D. Wayne Hedberg  
Division of Oil, Gas & Mining  
4241 State Office Building  
Salt Lake City, Utah 84114

Re: Re-channelization of Eccles Creek

Dear Mr. Hedberg:

In your July 5, 1984, letter on the above subject, you requested additional information relevant to the channel change. The request consisted of three (3) parts, and dealt with information relative to the channel's capability to pass peak flows, re-vegetation scheduling and sediment control.

The following comments correspond directly (by number) to your request.

1. The beginning of the new channel (upper end) is approximately 400 feet below the turn-off for the Belina Road. Eccles Canyon Creek is contained under this turn-off in a 48 inch corrugated metal pipe having a peak discharge capacity of 230 cubic feet per second. The 100-year peak run-off for the drainage area above this culvert is calculated to be 182 cubic feet per second, which is less than the capacity of the culvert. This information was derived as part of a study performed by consultants for the purpose of determining the adequacy of culverts in our permit area. This information was submitted to the Division for review and comment. We were later informed by the Division that this culvert was not required to meet the 100-year requirement, and that a design based upon the 10-year storm was sufficient. This being the case, the peak discharge for the culvert is 113 cubic feet per second. The area of the culvert is calculated to be 12.57 feet<sup>2</sup>. By use of the equation,  $Q=AV$ , the

velocity through this culvert would then be 9.0 feet per second during passage of the 10-year event.

The newly constructed channel has an average area of 65.25 feet<sup>2</sup>, and, by use of the Manning Equation, the velocity is calculated to be 18.87 feet per second. This is more than double that of the culvert; and, would, therefore, appear to be more than adequate to pass the design storm. The significant factor in the determination of proper sizing of the channel should be the limiting factor (culvert capacity) some 400 feet upstream, rather than an unrealistic printed regulation. Notwithstanding reasonableness, the cross-sectioned area, average slope and hydraulic radius, using the Manning Equation to determine velocity and the formula,  $Q=AV$ , to determine discharge, appear to confirm the capability of the new channel to pass the 100-year event and more.

2. At the present time, we are planning to re-vegetate the channel change area in the fall of this year (September-October). As previously mentioned in our May 29, 1984, letter, this work will be done in accordance with the techniques and methodology presented in Appendix B of Volume III of the Mine Permit.
3. As soon as the material is dry enough to work, the slide material on the south side of the channel change will be leveled out and re-vegetated. At present, drainage along the new channel flows away from the new channel and east toward the area where the old and new channels converge. Until such time as re-vegetation efforts are complete, we will utilize temporary sediment control structures at the east end of the new channel in an effort to prevent additional contributions of sediment from this area to enter Eccles Creek.

I hope this information is satisfactory for your desires as indicated in your July 5, letter, but I will be more than happy to discuss any further questions regarding this project which you may have.

Sincerely,



T. G. Whiteside  
Chief Engineer