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July 14, 1987

TO: File

FROM: Kent Wheeler , Reclamation Hydrologist

RE: Preliminary Review of Belina Haul Road Reclamation Plan, Valley Camp of Utah, ACT/007/001, Carbon County, Utah.

SUMMARY:

The above referenced application (dated January 22,1987) was reviewed pursuant to hydrology related regulations on July 8-9 ,1987. Several deficiencies were found, and are addressed below.

UMC 817.43-44
PEAK FLOWS

To evaluate the diversion designs, the peak flow from the design storm (100yr-24hr) must be calculated. To calculate peak flows the SCS CN methodology was used; however the necessary information was not supplied in the MRP, for the Division to evaluate the peak flow calculations. The following is needed for this evaluation:

1) Vegetation map
This map should have each Watershed clearly outlined.

2) Hydrologic Soils Group Map
This map should have each Watershed clearly outlined.

3) Report outlining the vegetation condition and percent cover of each vegetation community.

4) Calculations and assumptions used in determining the CN.

5) Calculations and assumptions used in determining T_c, including channel dimensions for Bowls Cr. and Eccles Cr..

DIVERSION LOCATIONS

To evaluate the diversions a map showing the location of all proposed diversions is needed. The map should include the diversions from each watershed as well as all water collection ditches that will be created due to the back sloping of the road.

DETAILED CROSS SECTIONS

To evaluate the conveyance of peak flows and the suitability of the riprap design, detailed maps and cross sections of each diversion should be submitted to the Division. These maps and cross sections should be of sufficient detail to determine channel slopes, channel dimensions, and riprap placement.

RIPRAP

The present riprap D_{50}'s appear suitable if peak flow calculations, channel slopes, and channel velocities are correct. If after calculation of channel velocities the Division finds the proposed riprap is insufficient, resubmittal of the riprap design will be required.

The proposed use of concrete for riprap is acceptable if the applicant will commit to the proposed 15% limit of concrete to natural rock and that no rebar (reinforcing steel) or other building materials will protrude from the concrete. Furthermore, no other construction materials including asphalt and brick may be substituted for the concrete.

At the locations that the applicant proposes using existing materials for riprap and/or filter blankets the D_{15}, D_{50} and D_{85} of the material in question shall be required by the Division.

ENERGY DISSIPATORS, CHECK DAMS AND PLUNGE POOLS

To evaluate the suitability of the energy dissapators, check dams, and plunge pools a detailed diagram of each structure is required by the Division. The diagram should include the location of the structure.

cc: S. Linner
R. Summers

1239R-22