



# State of Utah

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TO: File

THRU: Joe Helfrich, Permit Supervisor *JK for Joe Helfrich*

FROM: Sharon Falvey, Senior Reclamation Specialist *SKF*

RE: N97-26-7-1, Channel Configuration, Horizon Coal Company, Horizon Mine, ACT/007/020-97G, Folder #2, Carbon County, Utah.

### Summary:

This submittal incorporates changes to the text on page 9-7. Updated information is contained in the amendment for culvert extension and essentially invalidates the need for changes at this site. With the changes to the county road and resulting stream re-alignment changes to the existing plan are necessary.

### Analysis:

The channel at the outlet of UC-1 was impacted during two consecutive storm events in August of 1997 which resulted in erosion downstream of the culvert. Recently the county re-constructed the creek downstream of the disturbed area. The permitted design was initially constructed to tie into the which had different characteristics than the one which presently exists. Currently, there are no designs for the transition area between the reclamation channel and the channel reconstructed by the county. Construction and designs are necessary for the transition area.

The magnitude of the events occurring in 1997 indicates a need to increase the riprap and rock check dam design requirements to be stable. The velocity resulting from the flow equal to the maximum channel capacity above and below the site should be used to design the riprap and rock check dams and must be incorporated into the reclamation channel design.

### Findings:

**R645-301-774.314.** 1) Redesign the reclamation channel riprap and check dams to be stable for flow velocities resulting from the flow equal to the maximum channel capacity above and below

the site, and 2) provide a design for the transition area between the reclamation channel and the channel reconstructed by the county.

**Recommendation:**

The recommendations under the findings section above should be incorporated into design and constructed in the field where appropriate.