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# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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August 2, 1991

Mr. Wendell Owen  
Co-Op Mining Company  
P.O. Box 1245  
Huntington, Utah 84528

Dear Mr. Owen:

Re: Approval of Culvert Inlet C-2D and C-8U and Culvert Outlet C-10 Amendment (NOV #N91-26-4-3 #3 of 3), Co-Op Mining Company, Bear Canyon Mine, ACT/015/025-91A, Folder #3, Emery County, Utah

The above-noted amendment is hereby approved conditioned upon submitting finalized pages of this amendment (see attached draft pages).

Sincerely,

A handwritten signature in cursive script, reading "Pamela Grubaugh-Littig".

Pamela Grubaugh-Littig  
Permit Supervisor

jbe  
AT015025.15  
Attachments

dissipaters is indicated on the previous culvert summary and on Plate 7-1.

At all points along constructed ditches where excessive erosion occurs silt fences shall be installed (Figure 7.2-15) in order to eliminate the excessive erosion.

Culvert C-2D. The inlet to culvert C-2D is situated on the coal storage pad (Plate 7-1C). The activities involved in during stockpiling and loading, makes it difficult to maintain standard inlet protection. In order to maintain drainage from the storage pad, the inlet will be configured with a steel grate and large, 6 in. median dia rubble with an intermediate steel screen as shown in Figure 7.2-16. This configuration will allow drainage off the coal storage pad to continue in the event that coal is placed over the inlet area.

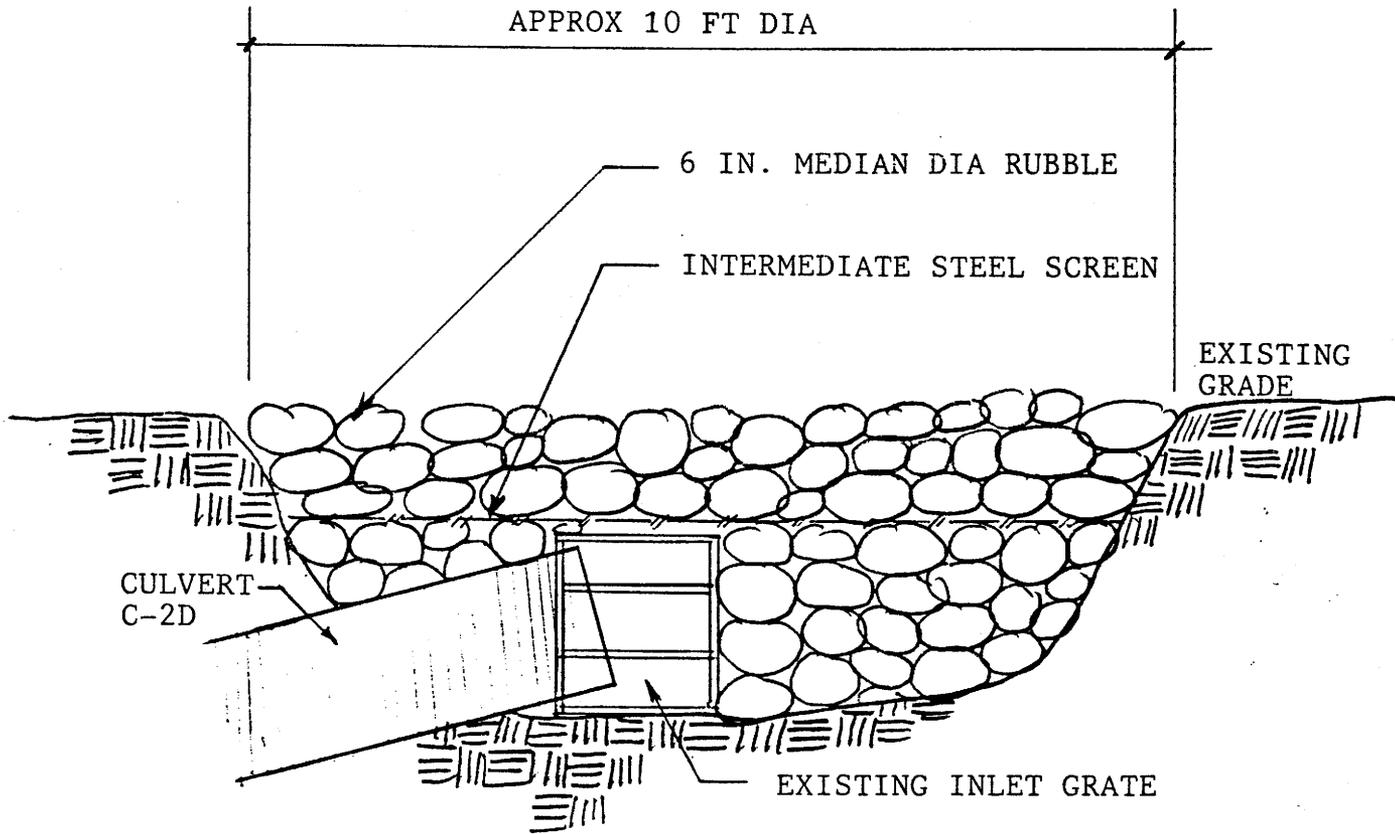


Figure 7.2-16 Inlet Structure (C-2D)

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**DRAFT**

Culvert Outlet C-1U 1991

In order to reduce erosion occurring at the outlet of culvert C-1U, a flexible culvert will be added to the end of the in-place culvert. The extension will extend to a point where the discharge is onto the rock cliff. The only runoff that crosses the slope below the Upper Storage Pad will then be the direct impact precipitation. The flexible culvert will be attached to the slope using the method identified in Figure 7.2.12.

A splash basin and drainage channel will be established at the immediate impact area in the downcast material at the base of the cliff, to direct drainage to the original drainage path. Due to the inaccessible nature of the location all work will be performed by hand. This limits the size of rip-rap that can be placed so the construction will be reviewed by qualified personnel along with the division. See Figure 7.2-7 for a profile of the cliff and downfall area. The remaining downcast material in the pile at the base of the cliff will be stabilized following interim reclamation procedures defined in Appendix 3-G.

A small sediment basin will be constructed and maintained at the inlet of culvert C-8U, and cleaned as needed to reduce potential impacts of suspended solids to surface waters. The inlet sediment basin is shown on Plate 7-1C.

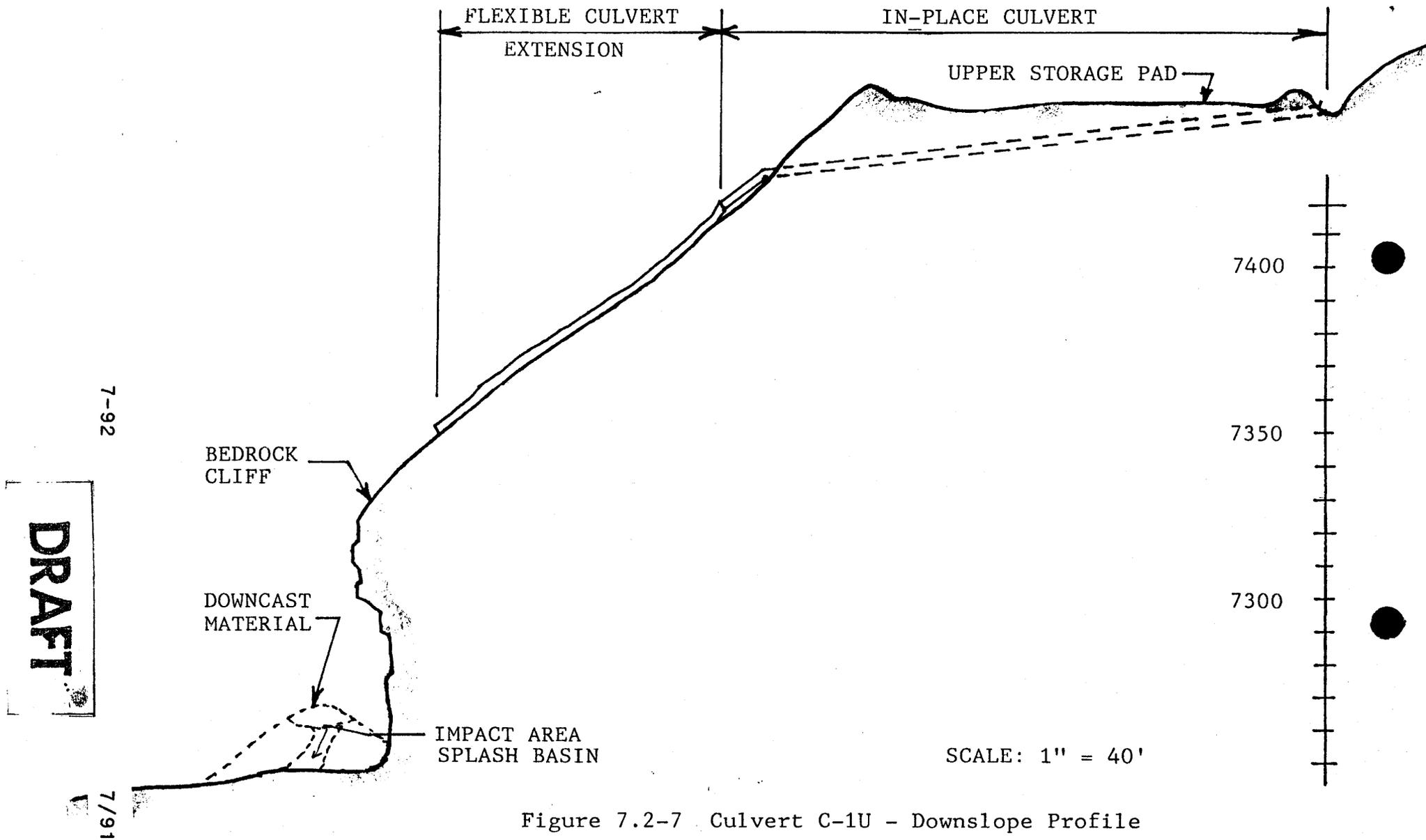


Figure 7.2-7 Culvert C-1U - Downslope Profile