



State of Utah
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DIVISION OF OIL, GAS AND MINING

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March 10, 1994

TO: File, ACT/007/035, Folder #2

FROM: Ken Wyatt, Senior Reclamation Hydrologist *KW*

RE: Miscellaneous Flows Natural Drainage in Addition to Seep Flow
Amendment Review, Sunnyside Cogeneration Associates, Sunnyside
Refuse Pile, ACT/007/035, Folder #2, Carbon County, Utah

SYNOPSIS

On March 1, 1994, SCA submitted information demonstrating the adequacy of the 36-inch culvert which drains the Coarse Refuse Seep plus surface runoff from 15 acres adjacent to the refuse pile under the railroad tracks. Included in this submittal were a P.E. certification, a watershed analysis using Sedimot II for both the 100 year 6 hour storm and the 10 year 6 hour storm, several drawings plus the culvert sizing information.

ANALYSIS

Surface runoff from the surrounding natural 15 acres was calculated using the Sedimot II model. A curve number of 75 was used for the natural watershed which was derived by averaging the three types of vegetative cover. The runoff from a 100 year 6 hour storm produces a peak discharge of 10.9 CFS. The seep flows at less than 1 cfs which combined with the 100 year 6 hour storm runoff still amounts to less than 13 cfs. The peak discharge for the 10 year 6 hour storm was calculated at 2.6 cfs. The 36-inch culvert currently in place is capable of passing 64 cfs as calculated using the Flowmaster program solving for full pipe discharge.

RECOMMENDATION

This culvert is capable of handling the required flows from the 100 year 6 hour storm and the 10 year 6 hour storm. I recommend that the submittal be approved and incorporated into the permittee's PAP.

cc: Pam Grubaugh-Littig
Randy Harden



MISCELLANEOUS FLOWS

NATURAL DRAINAGE IN ADDITION TO SEEP FLOW

36" CMP CULVERT NORTH OF THE COARSE REFUSE TOE POND

Hydrologic Calculations

100 year, 6 hour Storm

~~10 year, 6 hour Storm~~

Culvert design criteria

(Updated ~~March 1, 1994~~)