The CDRMS requirements for the emergency spillway sizing are 25-year, 24-hour storm flows, or 100-year, 24-hour storm flows, depending on the size of the structure. The spillways for MB-3 and MB-4 were sized based on the 25-year, 24-hour storm, while MB-5E and SG-1 were sized for the 100-year, 24-hour storm event in accordance with the requirements of the State Engineer. Drainage basins for the spillway sizing are shown on Map 54 and 54A, Sediment and Drainage Control Facilities. The RPE pond has been designed to completely contain the runoff from a 100-year, 24-hour storm event. Designs are included in Exhibit 70.

The 10-year, 24-hour storm runoff design was adopted in accordance with CDRMS regulations. The Revised Universal Soil Loss Equation (RUSLE) was used to predict the sediment yield from three years of runoff. MCC will maintain the ponds in compliance with the designs to effect discharge in compliance with effluent limitations. In some cases, MCC has installed concrete sediment traps above the pond inlets to facilitate sediment removal. These traps typically have inside dimensions of 24 feet in length, 10 feet in width, and 5 feet in depth, and can contain 600 $ft.^3$ of sediment.

A system of ditches and culverts has been designed to collect runoff from the 10-year, 24-hour or larger storm event and direct it to the runoff ponds. Although not required by CDRMS regulations, most of the haul and access roads located within the main mine facilities area are drained to sedimentation ponds. An exception is the Sylvester Gulch haul/access road; however, best management practices for stormwater treatment are utilized, and seven (7) short sections of 18" diameter HDPE half-pipe were installed to aid in stormwater sampling and flow measurements at six (6) existing stormwater culverts as shown on Map 54B. Modifications to the original mine pond and ditch systems can be found in Exhibit 48 and Exhibit 66. Ditches and culverts associated with the RPE area are contained in Exhibit 70. Ditches and culverts are shown on Maps 54, 54A and 54B.

Combined ditch flows are summarized for the system as they progress toward the runoff ponds. Ditch and culvert specifications are listed on Exhibit 66 tables. A summary table of inflows and volumes for each pond are also presented in the tables in Exhibit 66.

The hydrologic parameters for watershed and sub-watershed basins are summarized on Table 43 in Exhibit 66. Documentation of specific parameters such as curve number, rainfall and time of concentration are also found in Exhibit 66. This information for the RPE pond is located in Exhibit 70.

Miscellaneous Sediment Control Facilities

The railroad loadout facility has been treated independently of the other surface facilities. The loadout is located across the river from the other surface facilities and, therefore, must have its own sediment control. The sediment control is a pond designed (sized) for a 25-year, 24-hour storm event and to accommodate wash-down water from the train load-out facility. Pond MB-4 was relocated in 1998 from the east side of the train load-out to an area west of the load-out between the two sets of tracks. The relocated sediment pond is constructed with concrete and is preceded by an oil skimmer and a sediment trap. The current design detail for this pond can be found in Exhibit 66.

The RPE area has also been treated independently of the other surface facilities. The RPE area is located to the east of the lower refuse disposal area and east of Sylvester Gulch. The sediment pond