

Investigation and Repair of a Leaking Earthfill Dam

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ABSTRACT

This paper presents a description of the investigation performed on two leaking earthfill dams and the remedial measures undertaken to repair the dams. The dams are located at a large nursery operation that collects and stores excess irrigation water and storm water in five large on-site reservoirs. The both dams were built in 2001 and 2002 to increase the nursery's storage capacity by 40 percent.

In June 2004 water was found leaking into the outlet pipe in one of the dams through the joints and around the outside of the outlet pipe at the toe of the dam. Geosyntec was contacted to perform an investigation to find the cause of the leak-and to identify potential repair options. During the initial observation, evidence of significant piping was discovered that indicated the dam may be unserviceable in its present condition. The outlet pipe was, therefore, excavated and removed. During repairs to the first dam the second dam began leaking as well. Subsequently this dam was also excavated and repaired.

This paper will present the results of the investigations performed prior to and during excavation, and a discussion of the repair measures undertaken after the forensic investigation was completed.

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