



DEPARTMENT OF PUBLIC UTILITIES

Thomas M. Dolan
Mayor

MEMORANDUM

Scott J. Bond
Chief Administrative Officer

Thomas K. Ward, P.E.
Director

To: Thomas Ward, P.E. and Kade Moncur, P.E.

From: Tyler Shelley, P.E. TS

Date: May 26, 2017

Re: Pipe and Road Failure at Dry Creek Crossing at 10093 S. Dimple Dell Rd.

Problem Identification and Site Visit

We were contacted by Salt Lake County Flood Control on Friday, May 19 regarding pipe and road failure located at 10093 S. Dimple Dell Rd. The following week, on Wednesday, May 24, we met with County personnel at the site to inspect the problems. Dry Creek crosses Dimple Dell Rd. at this location in two 54-inch diameter Reinforced Concrete Pipes (RCP). Prior to the site visit, the County had placed sand bags in the upstream channel to divert flows from the north section of 54-inch RCP, plated the sink hole on the east edge of the road, and placed barricades on the west side. The location of the culverts and road failures are shown below in Figure 1.

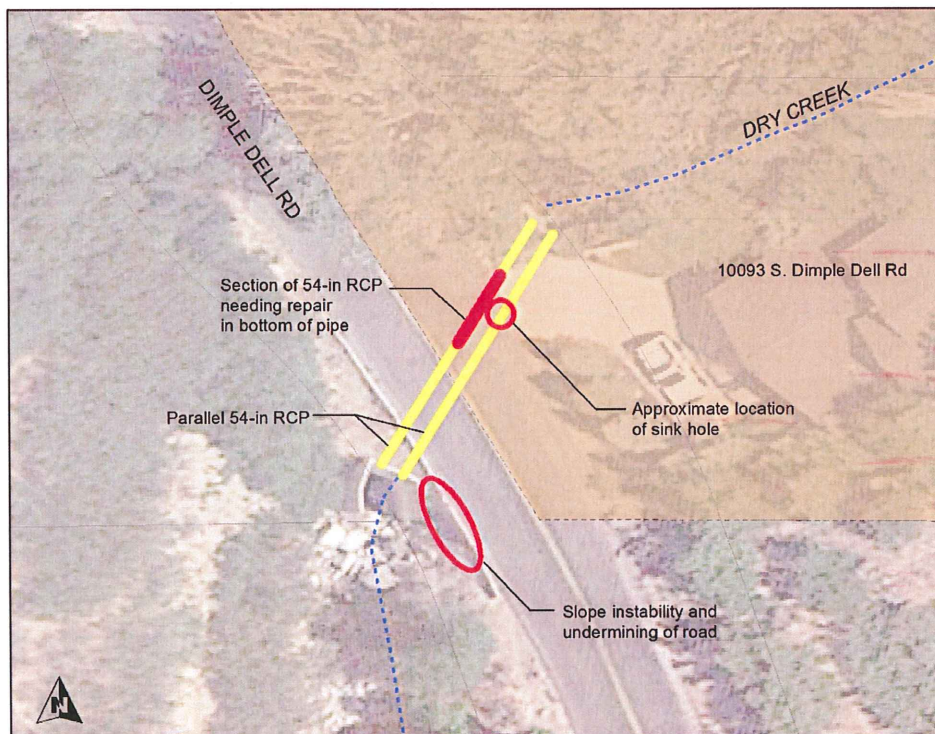


Figure 1 – 10093 S Dimple Dell Rd Pipe and Road Failure

We were able to inspect the pipes and see the location of the sink hole on the east edge and undermining on the west edge of Dimple Dell Rd. Following are photos taken during our site visit showing the sand bags placed in the channel (Photo 1), the plated sink hole (Photo 2), the undermining of the road (Photo 3) and the failure in the bottom of the north section of 54-inch RCP (Photo 4). It should be noted that both sections of RCP appear to be eroded along the bottom and the full length across Dimple Dell Rd. The missing bottom of pipe shown in Photo 4 is approximately a 10-ft section of the RCP in the north pipe.

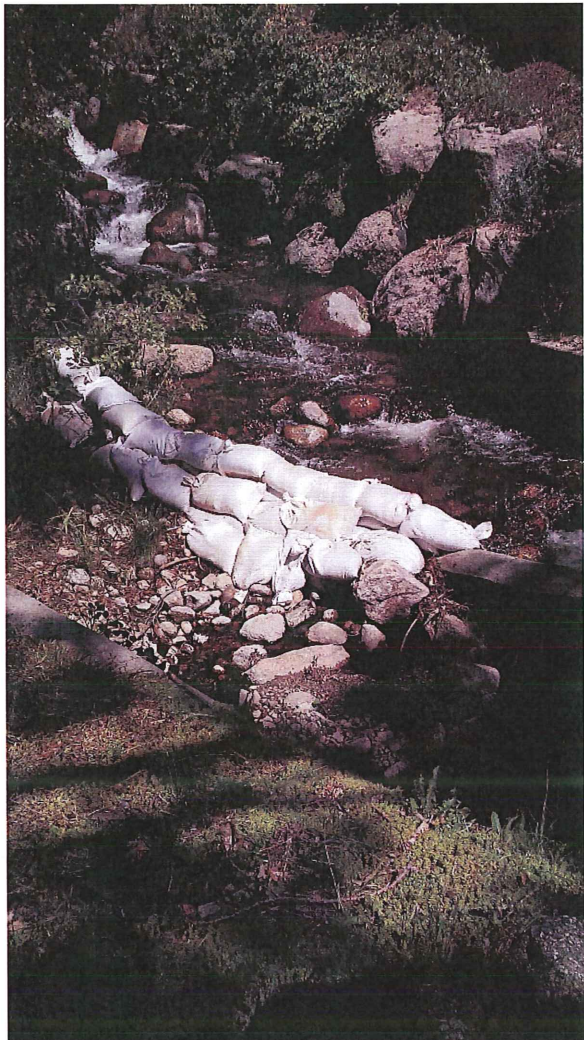


Photo 1



Photo 2



Photo 3



Photo 4

Proposed Temporary Solution

At some point in the future, the RCP crossing Dimple Dell Rd. will need to be replaced. We have discussed with the County a proposed temporary solution to repair the road and section of pipe with the missing bottom. Based on our evaluation, the temporary solution will include (but is not limited to) the following items:

- Traffic control
- Excavation
- Removal of asphalt
- Vacuuming out loose material down to the 54-inch pipes
- Filling voids with concrete including around the 54-inch pipes
- Filling voids in the bottom of the approximately 10-ft section of 54-inch pipe with concrete
- Setting retaining wall blocks at the base of slope on west side of road and bank stabilization
- Placement of new concrete barricades along the west edge of road
- Placement and compaction of backfill, road base, and asphalt

At this location, the east portion of Dimple Dell Rd. is owned by the County and the west portion is owned by Sandy City. The County and Sandy City have agreed to both contribute for the repairs. The County is in the process of preparing an interlocal agreement which will identify the following responsibilities:

- Sandy City will supply equipment and perform labor to complete the repairs and will pay for all materials required to complete the repairs
- Salt Lake County will reimburse Sandy City for all materials paid for to complete the repairs

Sandy City will begin the repair work on Tuesday, May 30. We will coordinate with Salt Lake County for required permits and during the repair work performed.

Please call if you have any questions (801-568-7285).

cc: Richard Benham, P.E., Public Utilities Engineering Manager (Sandy City)
Scott Ellis, Public Utilities Assistant Director/Operations Manager (Sandy City)
Mike Campbell, Public Utilities Assistant Operations Manager (Sandy City)
Ted Ketten, Public Utilities Drainage Supervisor (Sandy City)
Blaine Botkin, P.E., Sandy City Public Works Field Operations Manager (Sandy City)
Ryan Kump, P.E., City Engineer (Sandy City)
Frederick Lutze, P.E. Roadway Project Manager (Salt Lake County)