SWEETWATER SPRINGS WATER DISTRICT

TO: Board of Directors **AGENDA NO. V-E**

FROM: Steve Mack, General Manager

Meeting Date: July 5, 2012

SUBJECT: DISCUSSION/ACTION RE RIO VISTA TERRACE SADDLE FAILURES INVESTIGATION

RECOMMENDED ACTION: Receive a report on progress resolving the Rio Vista Terrace service connection saddle failures.

FISCAL IMPACT: none.

DISCUSSION:

We have completed our investigation effort of the saddle failures on Rio Vista Terrace. As we have discussed in prior meetings, our plan was to open up four saddles on Rio Vista Terrace and Huckleberry Way, observe them under system pressure, then do a repeat of the pressure test done for acceptance of the project one year ago on 3 segments of the project that can be isolated (the original pressure test was done on the entire system in one test), then replace the four saddles and inspect them once removed.

We followed that plan generally starting on Wednesday, June 20. The work of uncovering and replacing saddles was done by Piazza Construction. Brent Beazor of B&R Engineering Consultants documented the effort with photos and video and provided assistance with the pressure tests. The investigation was observed by representatives of W.R. Forde, the original construction company (who also took photos and video), and Bruce Papenhause of P&F Distributors on Wednesday and Glen Gates, Fusion Technician of P&F, on Thursday. P&F also supplied the replacement saddles prefused onto pipe sections. The replacement saddles were Georg Fischer saddles.

The planned four saddles were uncovered on Wednesday and nothing was noticed under system pressure. We then did the pressure tests. The pressure test on the lower section showed nothing unusual. It started at 200 psi and stabilized at 160 (the hydrant was at the bottom of the segment). During the pressure test on the Huckleberry Way segment, the uncovered saddle showed nothing unusual but a saddle that was not uncovered failed as the pressurized segment was being brought back to system pressure. This test was started at 180 psi and stabilized at 140 (the hydrant was at the top of the segment). This delayed the work plan on Wednesday and the construction team was mobilized to put a temporary repair on the failed saddle. When uncovered the failed saddle was barely sticking to the main and it showed little evidence of fusion.

On Thursday morning the pressure test for the upper Rio Vista Terrace segment was started and again, a saddle that was not uncovered failed, this time about 10 minutes into the pressure test. Again, this saddle showed little evidence of fusion. This saddle was repaired directly with a pipe section with a fused saddle that had been prepared earlier (intended for one of the other locations). We repeated the pressure test for this segment with no additional failures (started at 185 psi, stabilized at 160, hydrant was at a mid location of the segment). The pressure test was stopped after one hour so that we could complete all the necessary work on Thursday in a reasonable time.

Of note about the pressure tests, until we had two failures, we intended to repeat the two lower pressure tests because we were not satisfied with the gap between the starting pressure and the stabilized pressure. Because of the two failures, the resulting delay is getting the planned work done, and the need to replace all saddles as a result of the investigation up to that point, there didn't seem to be value or purpose in redoing the pressure tests.

The replacement of the upper Rio Vista Terrace saddles was completed on Friday, the excavations were filled in and permanent paving were done on Friday as well, completing the investigation.

The end result is that we now have two failed saddles out of the ground along with the corresponding pipe sections, and 3 sections of pipe with saddles still attached (original material and photos are available); one section has two saddles on it (the upper Rio Vista Terrace locations that serve houses across the street from each other). These are all available for observation and further testing. It does not appear that there was much scraping on the pipe done prior to the installation of any of these saddles. The print line is visible to the saddle fixtures on the pipe sections that did not have failures. The failed saddles do not show evidence of much fusion occurring.

Camille Rubeiz of the Plastic Pipe Institute is coming for a visit in mid July and we are holding the materials for his visit. After that we may do further testing.

On June 28, a demand letter was sent to W.R. Forde representatives for payment for the investigation and demanding replacement of the remaining saddles or payment for District replacement. This matter also will be discussed in closed session.