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DESIGN REPORT

Date: August 29, 2002
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Subject: **Talking Rock Ranch**
Phase 4A Sewer Collection System
Project Number: 02137



1. This report examines the design requirements for the Sewer Collection System for Phase 4A of Talking Rock Ranch PAD in Williamson Valley, Arizona. Since Phase 4A is attached to the existing Phase 1 Sewer Collection System, this report will be a supplement to the previously approved *Sewer Collection System Design Memorandum, Talking Rock Ranch, Phase 1, April, 2001*.
2. Phase 4A consists of ten (10) lots located West of Phase 1. A Service Area location map is attached.
3. Phase 4A shall consist of low pressure sewers with a grinder pump at each dwelling that will pump up to an existing Phase 1 gravity sewer line located in Talking Rock Ranch Road. The LPS piping layout is shown on the attached collection system layout plan.
4. System analysis was performed using the computer design program developed by Environment One Corporation of Niskayuna, New York. The design criteria used were the same as for the Phase 1 Report – except that minimum pipe velocity is 3.0 ft./sec., in accordance with the most recent ADEQ requirements. The attached spreadsheets detail the results of the analysis.
5. The existing gravity sewer, flowing full, has a capacity of 364 GPM which is greater than the total of the Phase 1 flow (132 GPM, Peak) plus the additional flow from Phase 4A (44 GPM, Peak).