

# Southern Sandoval County Arroyo Flood Control Authority



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Executive Director

## GUIDELINES FOR ALLOWABLE VELOCITIES IN PIPING SYSTEMS

### PURPOSE:

SSCAFCA transports storm water in closed conduits or pipelines. Generally, SSCAFCA facilities are major structures, such as dams or diversions, similar to Dam 1 or the Dam 4 to Dam 1 90" pipeline and must be maintained by SSCAFCA. Residents within our jurisdiction rely on SSCAFCA facilities for protection from storm water. SSCAFCA makes every effort to maximize public safety and minimize costs. Therefore, it is imperative that these types of facilities be designed and constructed properly for long term use (> 70 years) with the least amount of foreseeable maintenance so that the structure will be ready and in service when needed.

### BACKGROUND:

The velocity of the flow in closed conduits can aid and/or hinder maintenance of the system. Low velocities will cause sediment being carried by the flow to settle out and may eventually reduce the capacity of the pipe and, in some instances, plug the pipe entirely. High velocities can cause cavitation, abrasion and/or erosion of the invert or pipe wall.

Therefore, to insure that the life of the system is maximized and a minimal amount of maintenance is required for SSCAFCA systems, the flow velocity must be greater than 2.5 feet/sec to prevent siltation in the pipe. Conversely, the maximum velocity must not be greater than 25 feet/sec to minimize erosion of the invert, abrasion of the pipe wall, and to guard against the possibility of cavitation.

### GUIDELINE:

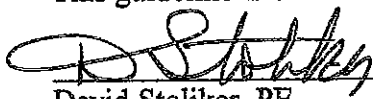
After a careful review of the available literature, and a meeting held with other governmental entities including AMAFCA, City of Albuquerque, City of Rio Rancho, designers, engineers, and manufacturers on June 7, 2001 the following guidelines for velocities in closed conduits is established.

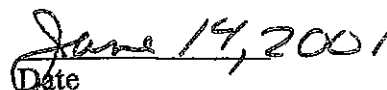
Minimum Velocity in closed conduit=2.5 ft/sec

Maximum Velocity in closed conduit=25 ft/sec.

Deviation from this guideline may be allowed on a case by case basis if approved by the Executive Director.

This guideline is effective immediately.

  
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David Stoliker, PE  
Executive Director

  
Date

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