



# Gookin Engineers

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## MEMORANDUM

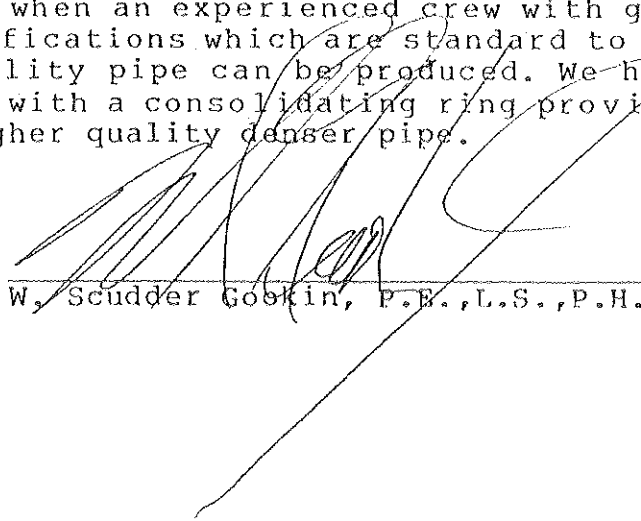
To: Whom It May Concern  
From: Gookin Engineers  
Date: December 6, 1989  
Subject: Experience with Cast-in-Place Pipe

This office recently completed the design and construction inspection of approximately 48 miles of cast-in-place pipe for three irrigation districts southeast of Phoenix. Pipe diameters for the project ranged from 60" to 42" for the 12 mile Phase I and 48" to 24" for the remaining Phase II. A maximum head of 15 feet was utilized in design of the system and 3 feet of cover over the pipe was required.

Bids received for the projects confirmed that significant savings are incurred by installation of CIPP over conventional pipe. Both projects had various pipe options available and contractors who bid pipe other than CIPP were not competitive.

Our experience with the placement of CIPP has shown that if the pipe is placed correctly, it yielded a good pipe which has worked well for the intended purpose. Quality control to insure proper placement included a constant monitoring of trench conditions, maintenance of equipment and forms, workability of the concrete and proper curing. Failure to follow specifications covering any one or combination of these areas can lead to costly and time consuming repairs or rejection of the pipe.

We have found that when an experienced crew with good equipment follows specifications which are standard to the industry of CIPP, a quality pipe can be produced. We have also found the machines with a consolidating ring provides better production and higher quality denser pipe.

  
W. Scudder Gookin, P.E., L.S., P.H.

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