

Review of Proposed Design Approaches for Liners Installed in Fully Deteriorated Host Pipes

*TTC / PRC Symposium
Dallas, Texas*

November 11, 2001

David Hall, *Mechanical Engineering*

Wei (Zach) Zhao, *Ph.D. Student in Engineering*



Shortcomings of ASTM F1216

- Too conservative to consider the liner as a directly buried pipe



Points of Strong Agreement

- Factor of safety at time of lining is 1.0, indicating that the liner will not carry any loading at the time of lining
- The purpose of the liner is to stabilize the soil / host-pipe installation and to support the groundwater loading



Conclusions and Recommendations

- Revise the wording of ASTM F1216 to recommend that the vast majority of liners are designed to resist groundwater loading
- Revise the design approach for heavily deteriorated pipes such that the expected loading conditions on the liner are modeled

