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## INSPECTION AND EVALUATION OF PIPE LINING MATERIALS

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**ABSTRACT :** The City of Santa Monica embarked on a large sewer line rehabilitation program in the wake of the 1994 Northridge Earthquake which damaged a significant portion of its sewer pipes. The rehabilitation technologies utilized included spirally wound pipe, cured-in-place-pipe, reformed deformed and fold and formed pipe liners. In responding to the sewer backup problem, the City's staff found a significant amount of root growth in a recently rehabilitated pipe line. This triggered the City to initiate an investigation of the extent of this problem. The City retained Black & Veatch Corporation, CRT laboratories, and Pro Pipe to assist it with the evaluation. The pre- and post-construction inspection videos of these sections were provided to Black & Veatch for review. Four locations were excavated and the rehabilitated line sections were retrieved for further examination. At the same time the City had extended where investigation to other products and locations in the city. The City is also in the process of developing a testing protocol to determine material properties and develop laboratory simulations of potential failure scenarios of all pipe liner material we have used in the last 15 – 20 years. Additional CCTV inspection will assist in developing a more definite cause of the liner problems if any and its extent. Laboratory testing of the liner will identify if any or all of the lining materials may have problems at some point in time. The paper will discuss our study, methods of investigation and finding