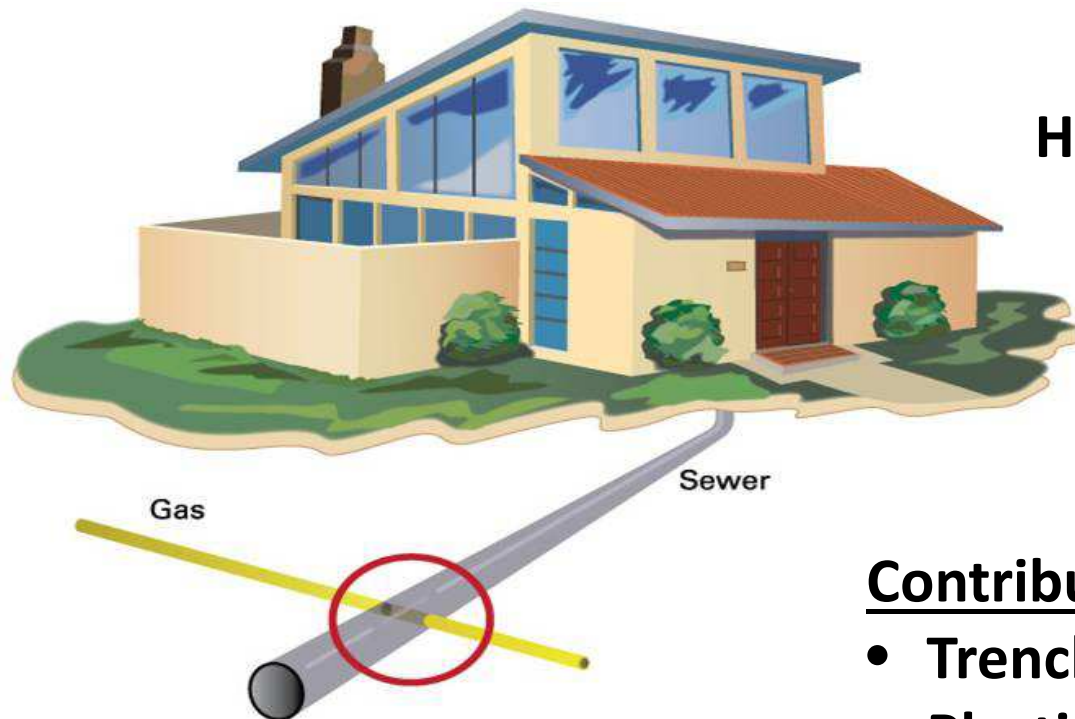




LOW FREQUENCY – HIGH CONSEQUENCE SEWER LATERAL CROSS BORES

BOB CARPENTER - PIPELINE INTEGRITY RISK & THREAT MANAGER

Sewer Lateral Cross Bore - Overview



**Low Frequency Event
High Consequence Potential**

Contributing Factors:

- Trenchless Gas line Installation
- Plastic (polyethylene) Pipe
- Sewer Lateral present
 - Shallower than expected
 - Difficult to locate

Sewer Lateral Conflict – Example





Background Information

- **Industry has been installing plastic pipe by directional drilling or boring since the early 1970's**
- **Historical installation practices for sewer line placement (6ft – 8ft) vs. gas lines (3ft – 4ft) provided sufficient separation**
- **Sewer Lateral (SL) material is typically clay or plastic with no means of locating (no tracer wire or locating balls)**
- **Municipalities don't own SL's, property owners do, therefore no responsible resource to locate and mark them**



Sewer Lateral Inspection Program - SLIP

- **SCG did repair SL conflicts occasionally, no incidents, very low volume**
- **SCG began developing SLIP after risk significance was recognized first by a SWG study of SL conflicts on their system**
- **Further recognition of this LFHC risk was supported by industry members as well as many state and federal pipeline safety representatives**
- **National incidents highlight level of severity of consequences**



- **Two-Stage Approach**

- **Identify Conflicts**

- **Determine conflict attributes (industry/in-house experience)**
 - Install date, pipe material, install method, SL presence
 - **Data research to identify locations**
 - Construction packages, maps, GIS, leakage data, sewer location data
 - Document all findings and decisions

- **Mitigate Conflicts**

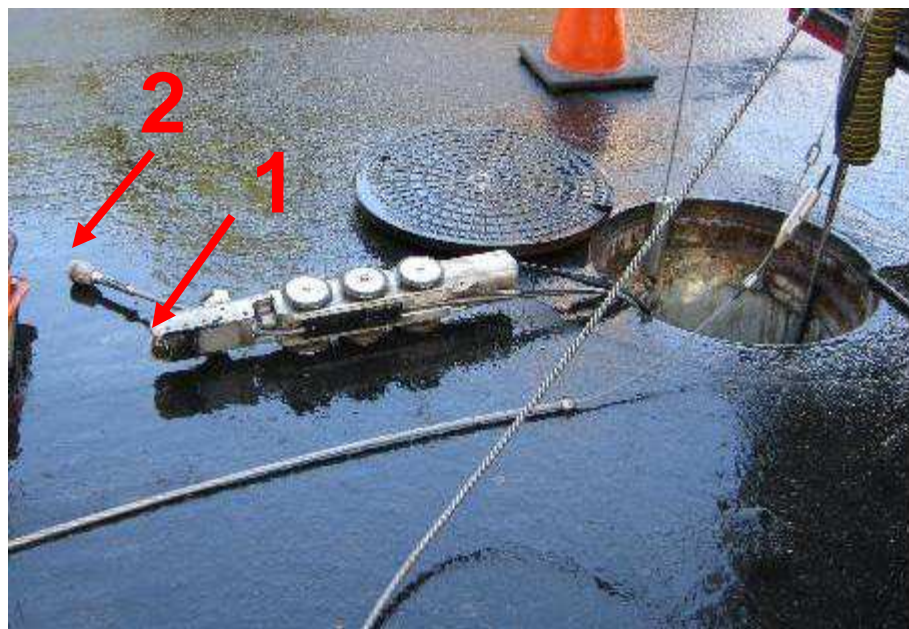
- **Site visits for video inspection inside laterals, or excavate**
 - **Repair as needed**
 - **Document all activities and findings**



Camera Launching

Two Cameras

- 1) Straight ahead for sewer main
- 2) 90 degree lateral camera





Inspection Control and Video Recording





Additional Operations

Camera in customer's clean-out



Locating sewer lateral

