ENPRO 355 EVS ENHANCED VISION SYSTEMS
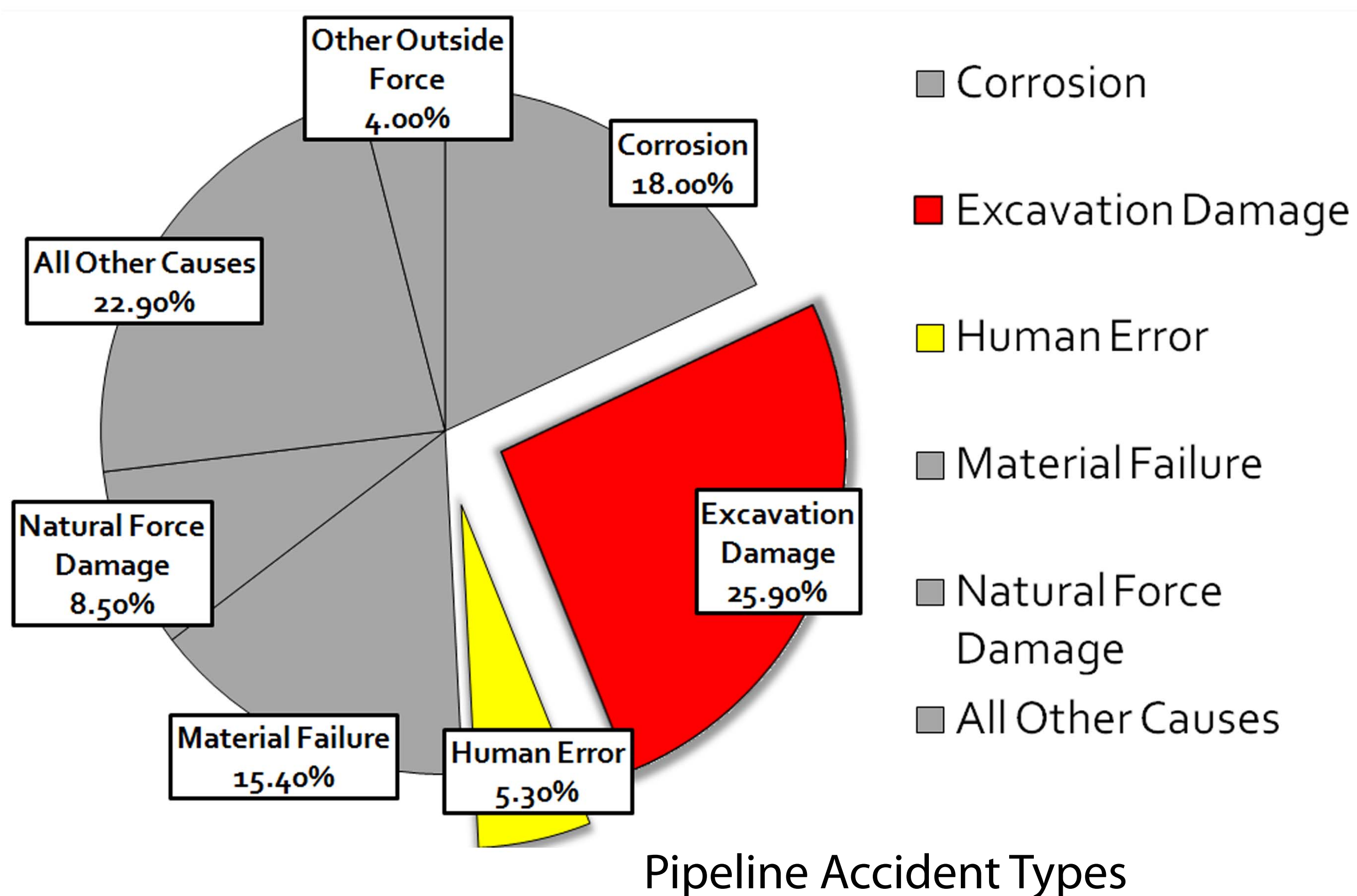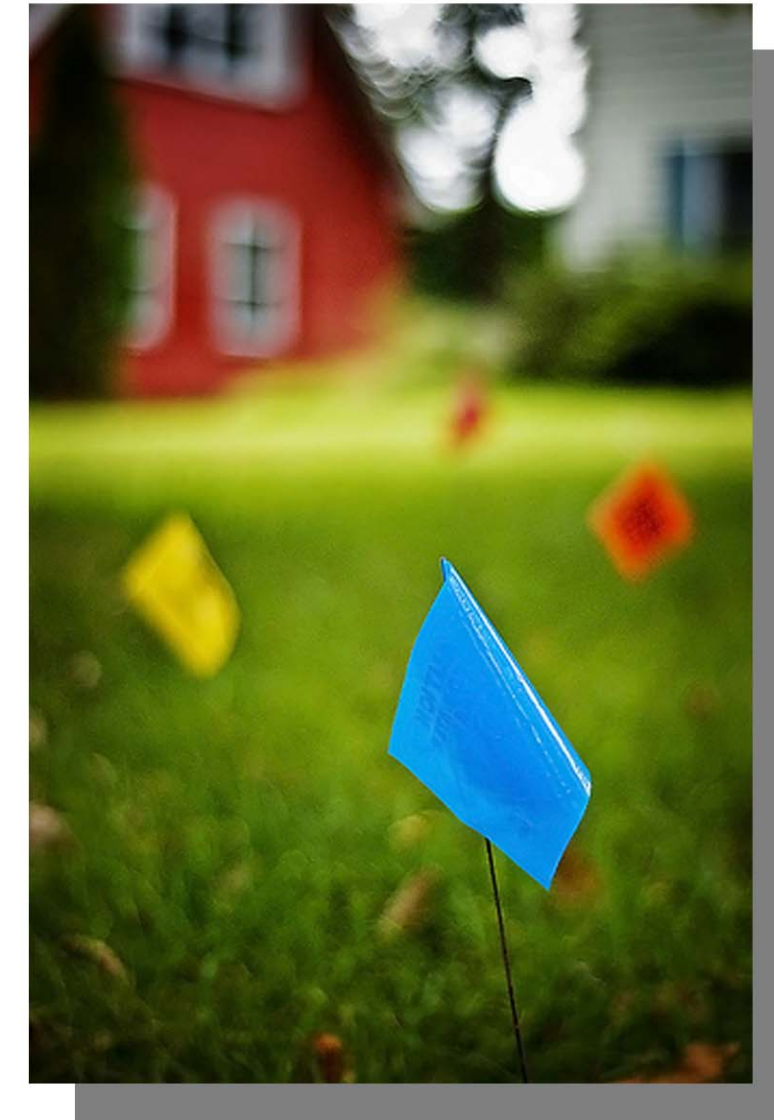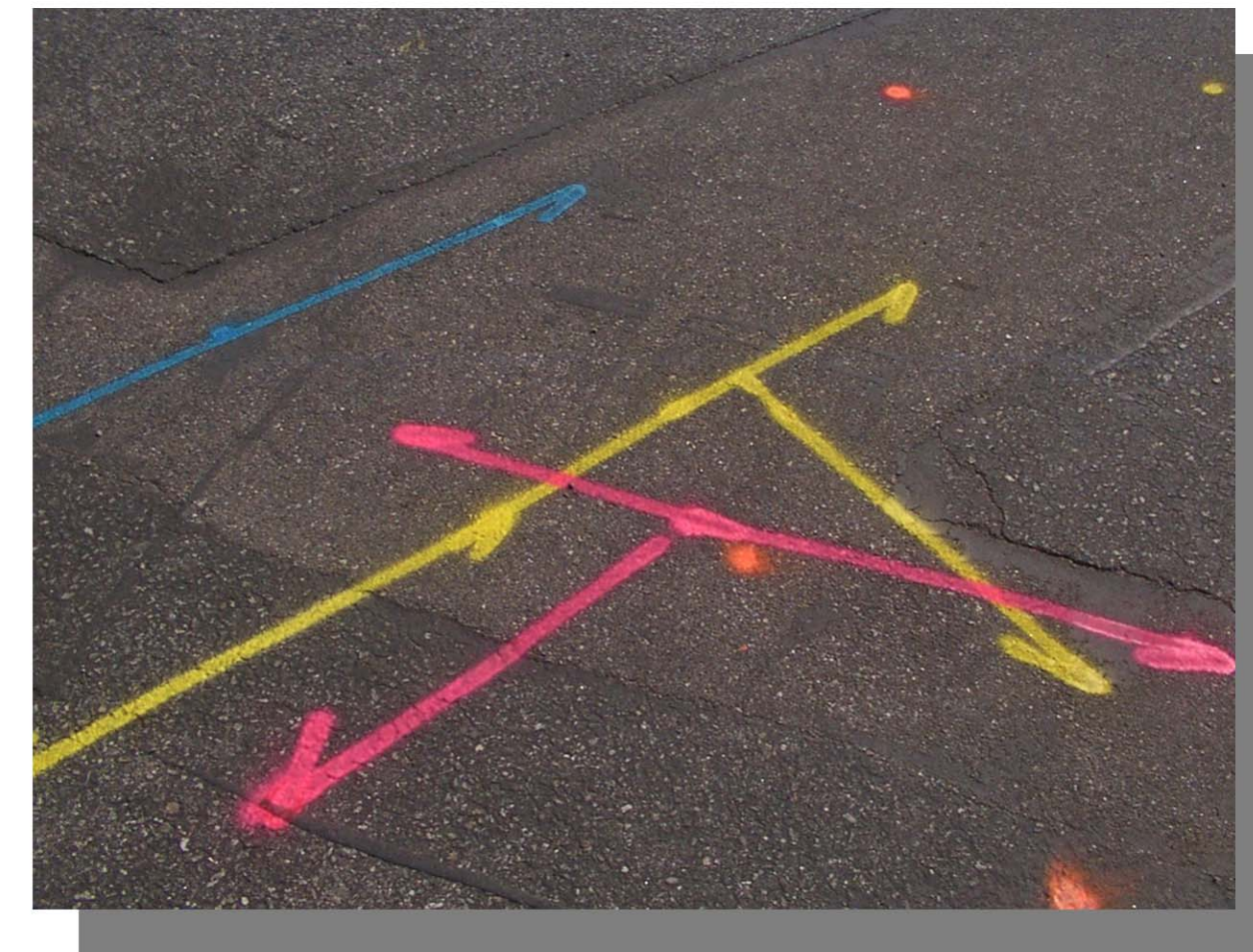
Problem

Mismarked / Unmarked Utility Lines
   Accidents Lead to Loss of:
      -Lives
      -Time
      -Money

According to the Pipeline and Hazardous Materials Safety Administration (PHMSA) an average of 21 lives, 87 serious injuries, $170M in property damages every year over the last 20 years.

Pipeline Accident Types

Legend:
- Corrosion
- Excavation Damage
- Human Error
- Material Failure
- Natural Force Damage
- All Other Causes

Pie chart:
- Other Outside Force 4.00%
- Corrosion 18.00%
- All Other Causes 22.90%
- Excavation Damage 25.90%
- Natural Force Damage 8.50%
- Material Failure 15.40%
- Human Error 5.30%

Background

Fall 2007 – Augmented Reality
   -Informational commercial virtual reality device
Spring 2008 – Augmented Reality
   -3-D hardware & software
Fall 2008 – Enhanced Vision Systems
   -2-D top down view; hardware & software

Case Study

Place: Bridgeport, Alabama

Time: January 22, 1999, 10:02 AM

Cause: Gas leak from a 3/4" steel gas line from contact of excavation equipment.

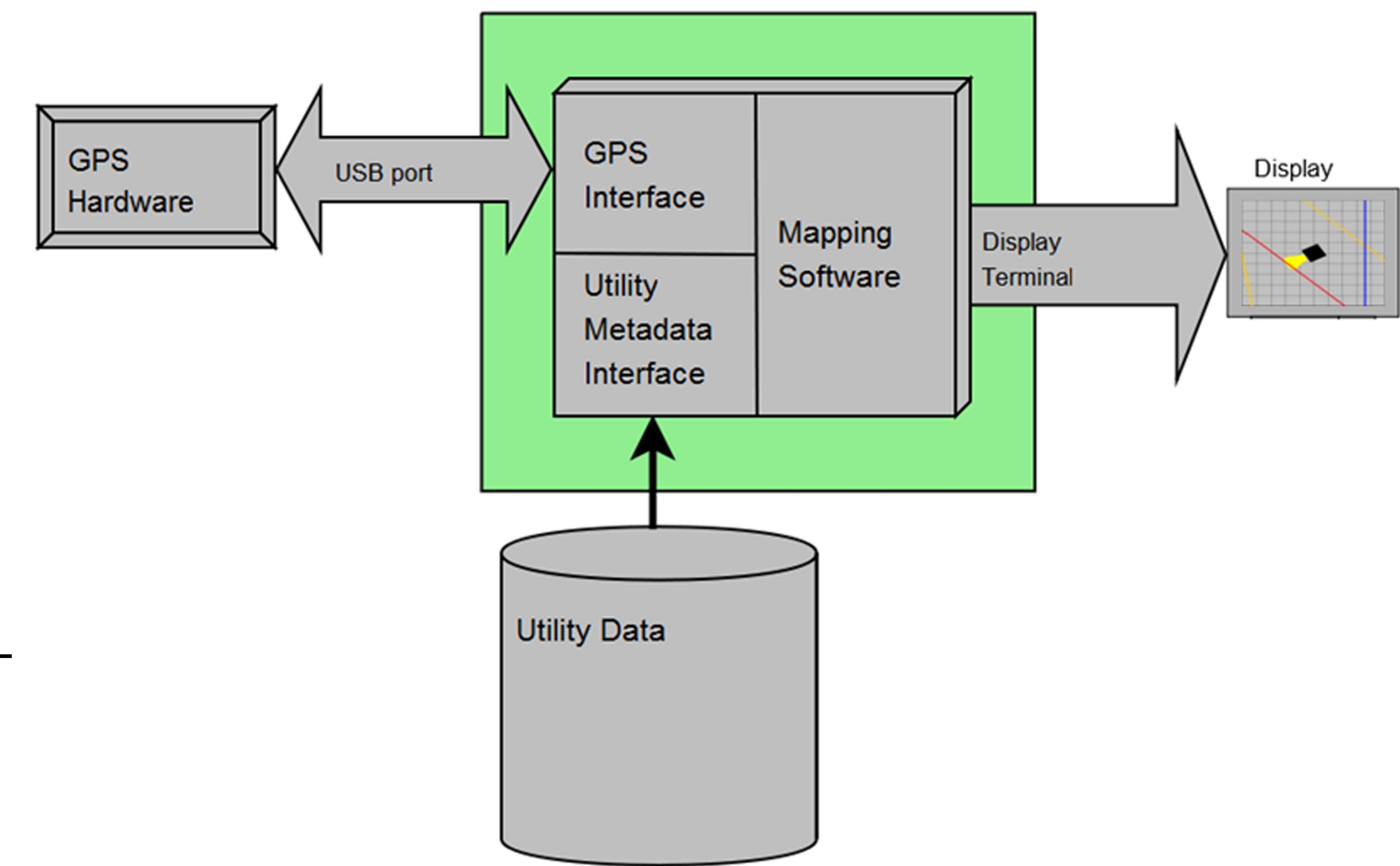Result: 3 fatalities, 6 seriously injured. $1.4 million of property damage & loss.

Solution

A Software Product

   -Graphical Map

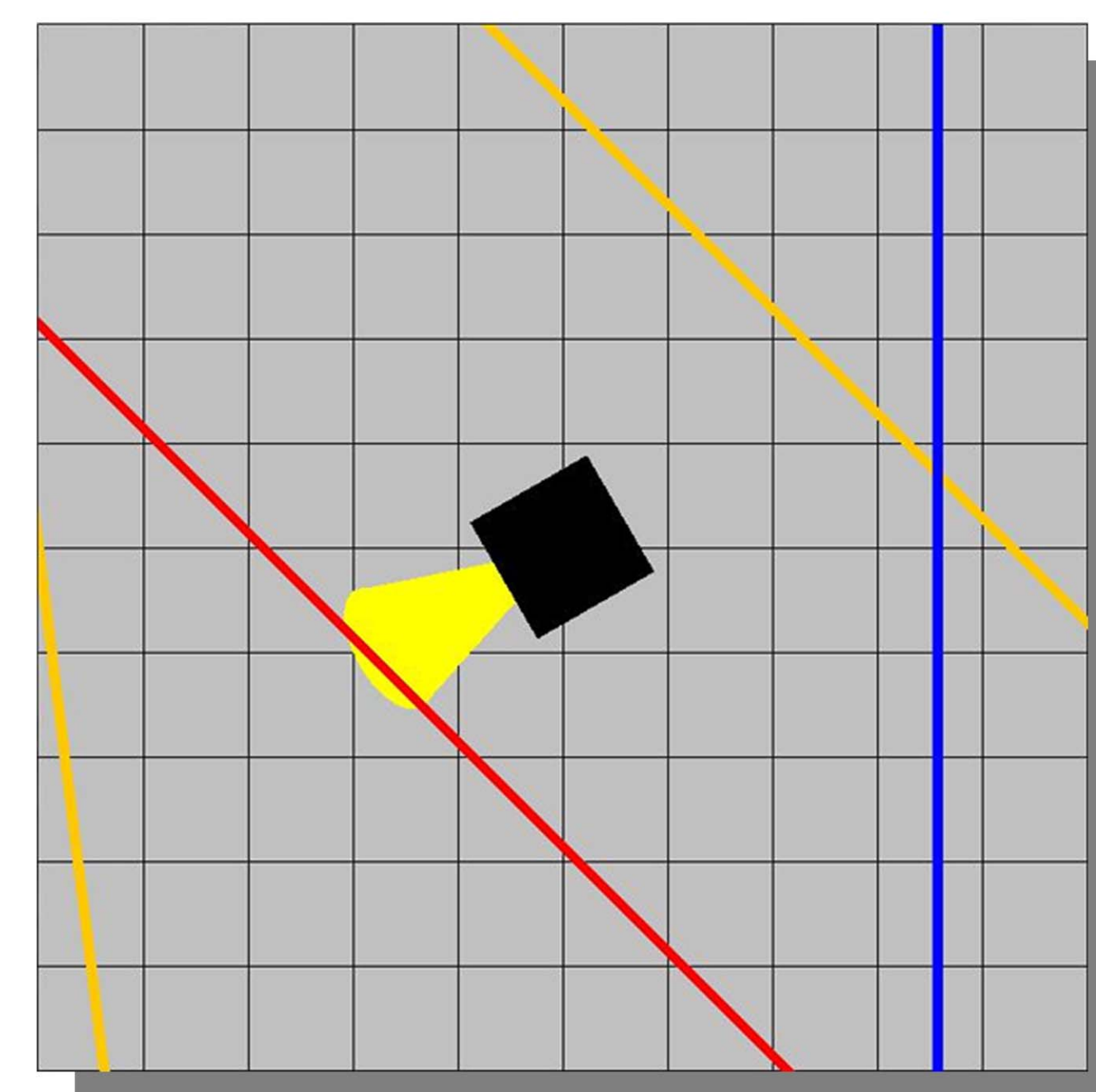   -Location of buried utilities

      -Position of Equipment

Used By

   -Construction Equipment Operators

   -Utility Marking Services

Diagram: GPS Hardware — USB port — GPS Interface / Utility Metadata Interface / Mapping Software — Display Terminal — Display; Utility Data

Benefits

-Shows location of utility lines
-Updates location in real time as the user move.
-Displays the user–selected safety range
-Alert the user of danger and do not dig zones

-Increased Safety
-Greater Productivity