It is imperative that before the onset of an infrastructure upgrade, owners have precise surveys of existing conditions. Kleinfelder’s 3D scanning solutions provide clients with highly detailed and accurate 3D surveys that streamline the design and construction process—reducing project risk.

**INCREASING DESIGN EFFICIENCIES AND LOWERING RISKS**
Kleinfelder’s 3D-scanning experts seamlessly integrate their 3D surveys with civil, electrical, mechanical, and pipeline engineering services to provide clients with design solutions that work. Kleinfelder captures real-life data that is incorporated into BIM (Building Information Modeling) software, where upgrades are developed and visualized using 3D modeling. This technology not only increases design efficiencies and lowers risks but provides clients with a comprehensive vision of what to expect.

**COST-EFFECTIVE 3D-SCANNING**
At project kickoff, Kleinfelder’s design teams, which provide all 3D-scanning services in-house, define end goals that create the criteria for the 3D data that needs to be collected. This efficient process allows for high quality scans and data collection, while keeping costs lower than traditional approaches and maintaining project timelines.

**Services include:**
- Capture & analyze site conditions
- Verify structural integrity
- Perform 3D modeling and design
- Measure piping, steel & infrastructure elements
- Volume calculations for land or mining applications
- Electrical tray layouts and supports
- Turnaround support and planning
- Tank wall thickness measuring
- Reality capture for virtual reality applications such as training
- Project manager planning and constructability reviews

**Base-Photo**

**3-D Scan**