



In the early 1920s a new heating plant was constructed on the campus of Lewis & Clark State College. One of the major components to this plant was a 125-foot chimney. According to documents of record, the heating plant was designed by James J. Burke, Engineers, for the General Concrete Construction Company located in Chicago and New York City. Construction completed on July 23, 1924.

In 2005, Roger H. Tutty, PE/SE/PLS performed a detailed investigation to quantify the stability of the chimney. Part of his analysis was observing the plumbness of the structure. In his report he advised subsequent observations to ensure it remained stable and vertically aligned.

J-U-B ENGINEERS, Inc. (J-U-B) was retained in February 2023 to perform a survey and report data relative to Mr. Tutty's findings. As we planned our survey, we recognized the importance of the following:

- Knowing the current relationship of the chimney relative to zenith accurately.
- Comparing its current condition to the 2005 Tutty observations.
- Having the ability to repeat the measurements in the future for precise relational comparison to historic observations.

To acquire this data, we used terrestrial LiDAR scanning technology to create a highly accurate three-dimensional model of the entire chimney structure. This model is carefully related to strategically placed control points for repeatability in future observations. This work is critical to monitor the chimney stability and the effect various environmental loads may have over time.

J-U-B was pleased to assist the College in developing this model and recording the data to help ensure the safety of the students, staff, and public while they enjoy this historic structure that has overseen the campus for nearly a century.