



### **Project overview**

As part of a pre-design phase assessment of the Kentucky State Capitol, Vertical Access performed a hands-on investigation of the lantern, dome and drum to help the design team develop repair recommendations.

### **Building description**

The current Kentucky State Capitol was designed by Frank Mills Andrews in a Beaux-Arts style and constructed between 1904 and 1910 to replace an earlier building in Frankfort that had served as the Capitol since 1830. The dome of the Capitol rises above the base of the building at the crossing of the wings. The plinth, peristyle and attic levels are all clad in Indiana limestone. Above the attic level, the dome and lantern are clad in terra cotta. There are twelve facets of equal width at the dome, each with 19 courses of terra cotta units.

### **Challenges**

- Help the design team understand the as-built construction details and material deficiencies.
- Communicate existing conditions information to the project team.
- Understand water infiltration and drainage at the exterior of the dome.
- Perform survey of existing conditions to help prioritize repair work. *Photo by Vertical Access*

### **Solutions**

- Performed the hands-on investigation of all exterior areas using industrial rope access techniques.
- Documented general conditions and notable deficiencies using photographs hyperlinked to AutoCAD drawings.
- Performed live-feed video with the client to review construction details.
- Used a borescope to view construction details at the terra cotta lantern and dome.
- Used a UAV-mounted infrared camera and hand-held infrared imager to document water infiltration at the exterior and interior.
- Collected quantities of material deficiencies to help project team develop cost estimates for repairs

### **Building owner**

Kentucky Division of Engineering & Contract Administration

### **In collaboration with**

- EOP Architects
- Preservation Design Partnership
- Brown & Kubican Structural Engineers
- Aaslestad Preservation Consulting
- Echem Consultants