Firm Overview

Vertical Access provides specialized building inspections and condition reports for architects, engineers, and conservators utilizing efficient, lightweight rigging systems. This unique approach to architectural investigation offers quick, "hands-on" access without expensive and time-consuming conventional swing stage or frame scaffolding, cranes, and boom lifts.

Buildings and monuments with hard-to-reach areas such as steeples, domes, towers, chimneys, and high parapet or screen walls are the company's specialty.

Because effective and intelligent collection of data in the field is essential to providing comprehensive and useful report documents, Vertical Access utilizes tablet computers running AutoCAD 2002 coupled with digital still photography to record existing conditions.

While industrial rope access is the means to an end, the ultimate service is the collection, management, presentation, and sharing of condition survey data. Vertical Access does not typically engage in repair or maintenance work. Instead, by concentrating on the investigation and documentation of existing conditions, Vertical Access maintains an objective point of view, free of potential conflicts of interest.

Founded in 1992, Vertical Access is based in Ithaca, NY and has offices in New York City and Washington, D.C. Our staff includes preservationists with backgrounds in construction, structional engineering, architectural conservation and non-destructive evaluation of structures.

Technical Approach

In the United States, Vertical Access has pioneered the use of industrial rope access techniques for purposes of investigating and documenting existing conditions on a variety of structures, including bridges, chimneys, towers and buildings. The notion of using these lightweight, adaptable and very flexible rope access systems for conducting preconstruction surveys has proved to be quite cost-effective, allowing for a comprehensive understanding of existing conditions and quantities of repairs with minimal cost and disruption.

In general terms, Vertical Access technicians are suspended on one rope termed the "working line" with a redundant "fall protection" line used as backup. Hands-off descent control and fall protection devices are integrated into site-specific rigging systems, along with industry-specific climbing and suspension harnesses. In terms of ultimate breaking yields, factors of safety for this equipment are close to 15:1. The system provides integrated fall protection and work positioning capabilities, and has an extraordinary safety record after millions of man-days of site time worldwide.

Vertical Access technicians use tablet-based computers running AutoCAD 2002 in the field, inputting both graphical and numerical data, indicating specific types and quantities of various fault conditions identified in the course of the investigation. digital photographs, keyed to their locations on the elevations, support and supplement the final condition survey report.

More information about Vertical Access, including downloadable Project Profiles in PDF format can be found at our website at www.vertical-access.com/work.html.

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Services Provided

■ **Existing Conditions Surveys:** Vertical Access provides comprehensive and thorough condition surveys of building exteriors and interiors. Hands-on and up-close observation of building conditions obtained as part of the conditions surveys help our clients to make informed decisions on the best approach to building maintenance and capital repair campaigns. The Tablet PC Annotation System (TPAS) developed by VA has proven to be a very efficient and effective way of collecting, portraying, quantifying and analyzing various faults or deficiencies identified in conditions surveys. More information on the TPAS system may be found on our website: http://www.vertical-access.com/resources.html. VA has full-service, in-house CAD capabilities and reports are customized according to individual clients' needs.

■ **Façade Conditions Surveys:** Vertical Access can assist architects and engineers performing locally-mandated façade inspections. Rope access techniques have proven to be a safe, efficient and economical means of surveying representative areas of building façades. Deliverables to our clients performing these critical inspections range from hand-annotated field notes and digital photographs to fully developed existing condition survey reports.

■ **Fiber Optic Investigation:** Vertical Access owns and operates a fiber-optic tool called the "See-Snake" for the investigation of internal leaders/drain pipes, duct work, cavity walls, crawl spaces and other locations where human access is not possible. This rugged device consists of a miniature video camera with a wide-angle lens and built-in light source attached to 200 feet of heavy duty fiber-optic cable. A portable monitor and VCR are used on site to view and record the video feed and operator's narration. A built-in odometer records the total distance that the camera travels to assist in locating areas of deterioration.

■ **Non-Destructive Testing:** When necessary or suitable to the project, Vertical Access utilized non-destructive testing to help in the evaluation of a structure or its materials. VA owns and often uses borescopes and wall tie locators to characterize subsurface conditions. VA can also assist in building evaluations by installing crack gauges and transducers. Should invasive probes be appropriate, VA always makes appropriate repairs or waterproofing measures before leaving the site.

■ **Materials Sampling:** Because rope access techniques allow hands-on access to most areas of a structure, Vertical Access can perform sampling to assist in material characterization and analysis. Using hand and power tools, including masonry coring drills and other large tools, VA technicians can effectively remove material samples meeting the requirements of our architect, engineer, conservator and testing laboratory clients.

■ **Video Documentation:** To provide clients and building owners with a "first-hand" view of conditions, Vertical Access can provide video documentation as part of a condition survey. VA technicians performing the inspection use a digital video camera with a live-feed connection to an on-site monitor. Project team members at the monitor are in communication with the VA technician by means of two-way radios so that they can direct the technician to move closer to a feature or condition, ask questions to help clarify the observations or perform another action that would help in understanding the condition of the structure. VA can submit the video documentation with the other project deliverables as either a DVD or on VHS tape.