



SUBMISSION FORM

All submission forms must include the following information. Separate submission forms must be turned in for each eligible program. **Deadline: July 1, 2024.** Please include this submission form with the electronic entry. If you do not receive an email confirming receipt of your entry within 3 days of submission, please contact [Gage Harter](#).

PROGRAM INFORMATION

County: Chesterfield County Virginia
Program Title: Fire and Life Safety building documentation system
Program Category: Criminal Justice and Public Safety

CONTACT INFORMATION

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SIGNATURE OF COUNTY ADMINISTRATOR OR DEPUTY/ASSISTANT COUNTY ADMINISTRATOR

Name: Edward L Senter Jr
Title: Fire Chief
Signature: *Edward L Senter Jr*

Fire Marshal's Camera System

Executive Summary:

The Chesterfield County Fire and EMS, Chesterfield County Virginia, Fire Marshal's office has transitioned from scene documentation by paper, pencil, and tape measure to a high-definition photo/LIDAR system. This system provides more accurate information, much faster than the traditional methods.

The Problem or Need for the Program:

The Chesterfield County Fire and EMS, Chesterfield County Virginia, Fire Marshal's office was facing a significant crime scene investigation/documentation gap. The investigating fire marshal, as part of his crime scene documentation, was required to draw out a "to scale" drawing of the entire structure involved in the fire. These drawings were then used as evidence in court when the fire was determined to be criminal in nature. In addition, the need to examine the facts surrounding a fatal fire also require building schematics. This is done so a proper analysis can be conducted to identify faulty products, human behaviors, and other causes to eliminate in the future to protect loss of life and property.

The issues surrounding this tedious, manual task include:

- A significant amount of time required to make a drawing in enough detail that would be appropriate for legal action.
- The significant time required to put the drawing together increased the exposure the fire marshal received to hazardous carcinogens.

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- The significant time slowed the demolition/reconstruction process down by weeks.
- Hand drawings raised credibility and accuracy questions during the legal process.

Description of the Program:

The Chesterfield County Fire and EMS, Fire Marshal's office sought out solutions to their documentation gap. The objectives of their program included:

- Improve the accuracy of the documentation used in the fire investigation.
- Decrease the time of the documentation process.
- Reduce the toxic and hazardous carcinogen exposure to the fire marshals by minimizing their environmental exposure time.

The Fire Marshal's Office began looking for a technology-based solution after seeing a homeowner's insurance adjuster utilizing technology to rapidly gather data on a fire damaged structure. After researching the various options available, a camera system that captured 360-degree views in high definition in collaboration with advanced Light Detection and Ranging (Lidar) technology was field tested.

The field tests in structures that had caught fire and were under investigation were utilized. The time required to deploy the camera system was substantially less than what was previously experienced doing the evidence collection by hand. In addition they discovered that the system allowed for a video replication, in high definition,

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walkthrough of the structure. (This is a similar practice that real estate agents utilize when advertising home for sale on the internet.)

In addition, the data files can be sent to the company, and within one business day detailed drawings of the entire structure with accurate dimensions are made available to the Fire Marshal's office.

The discovery process took less than six months with a total cost of approximately \$2,000.

Cost of the Program:

The cost of the camera system was approximately \$2,000. The manpower required to document an entire structure was reduced from three weeks to several hours.

This is a significant time saving device, which has an indirect cost far greater than the cash outlay for the system.

Results/ Success of the Program:

The camera/lidar documentation system has proved to be a tremendous success.

The program has resulted in professional, accurate pictures and schematics that allow for irrefutable legal evidence. The savings in time not only reduces toxic exposures to our people but speeds the recovery process up for the homeowner.

Worthiness of Award:

This program is worthy of consideration, as it was initiated and seen through to completion by the end user. The boots on the ground identified the need and

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located the best practice in closing their gap. This highlights the amazing work done to provide excellent service to the community we serve.