

ROOFING FLORIDA

**Practical Technology:
Aerial Roof Measurements**

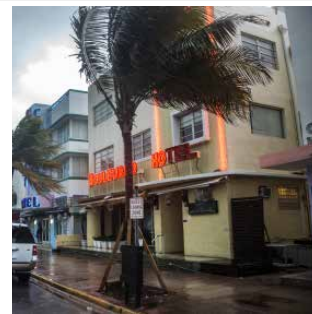
**Safety Margins for Wind
Uplift Resistance Tests**

**Transferring a Lien to
Security**

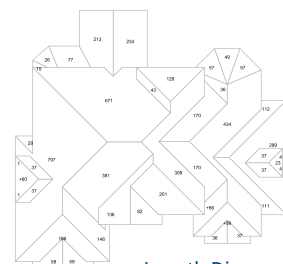
**iRoofing App Brings
Homeowners and
Contractors Together**

**Sealed Attics in Florida:
Research Needed**

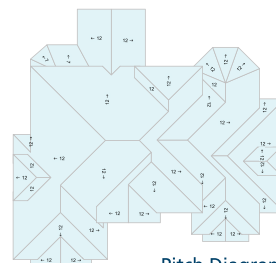
**Developing Strategies for
Disaster Preparedness**



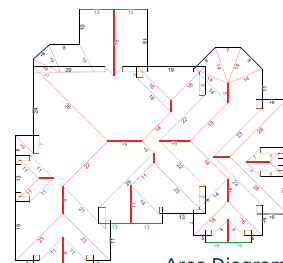
3D Diagram



Length Diagram



Pitch Diagram



Area Diagram

MAY 2013

Aerial Roof Measurements Technology Driving Changes to Professional Roofing Practices

By Karen Edwards, EagleView Technologies

Technology promises to maximize return for your effort, to distinguish you from the crowd and, ultimately, to increase your opportunity of *profiting through professionalism*. In order for technology to deliver on its promise, however, requires a contractor to invest time to understand it; and, to filter profitable technology from unprofitable. When a contractor “sees the light” of a particular technology, it means he can implement it into multiple facets of the business that will make day-to-day operations more efficient and profitable.

One technology that continues to prove itself and make believers out of Florida roofing contractors is aerial roof measurements. First introduced in 2008 by FRSA member EagleView Technologies, it continues to evolve and prove itself useful, sometimes in less than obvious aspects of the contracting business.

Then and Now

Gathering roof measurements has traditionally been a time consuming and labor intensive process. A contractor or

employee had to drive to a prospective customer’s location and manually measure and calculate roof specifications. The manual process left itself open to errors on multiple levels: in the measuring itself and then in the computation of those measurements. If additional data are required after an initial visit, it means expending more time and travel. Essentially, aerial measurement technology remotely automates this task. “When you look at the process of measuring a roof or a building’s exterior, for years it was time consuming and done by hand with a tape measure,” says Chris Barrow, EagleView Technologies CEO and president. “Technology has taken that tedious task and automated it.”

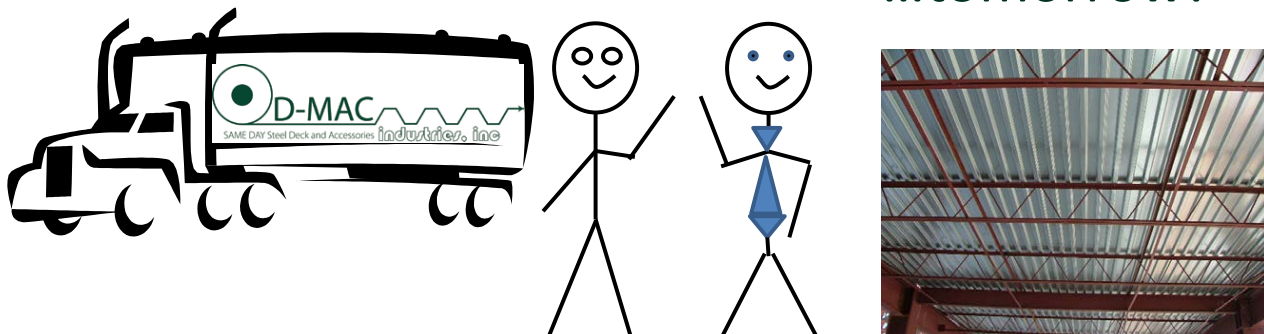
What’s in a Report

To get a glimpse of how aerial measurement technology speeds the process of roof measurement, as well as estimating, sales and other business processes, let’s look at some of the information a contractor should expect to receive in a report. A contractor provides the address of a particular location and after visually confirming that the address matches

Today...



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the residential or commercial building, submits the request. Some aspects to look for in a report include:

- ◆ Photographs of the property from multiple perspectives
- ◆ A three dimensional drawing of the building
- ◆ Length, pitch and area diagrams
- ◆ Report summary
- ◆ Useful information such as nearby gas stations, restaurants, medical centers, etc.

At the bottom of this page and on the following pages you will see examples, from both residential and commercial projects, of some of these items.

Apples to Oranges

When selecting a aerial roof measuring service, it is important to research the quality of the photographs that the report will be based upon. Because of Federal restrictions, satellite imagery is limited to 18 inches per pixel while aerial photography is not. The result is that reports based on aerial photography have traditionally provided six times the resolution allowed by satellite. This is enough of a difference to show up in the roof measurement report you receive. With new cameras capturing images at one inch per pixel from

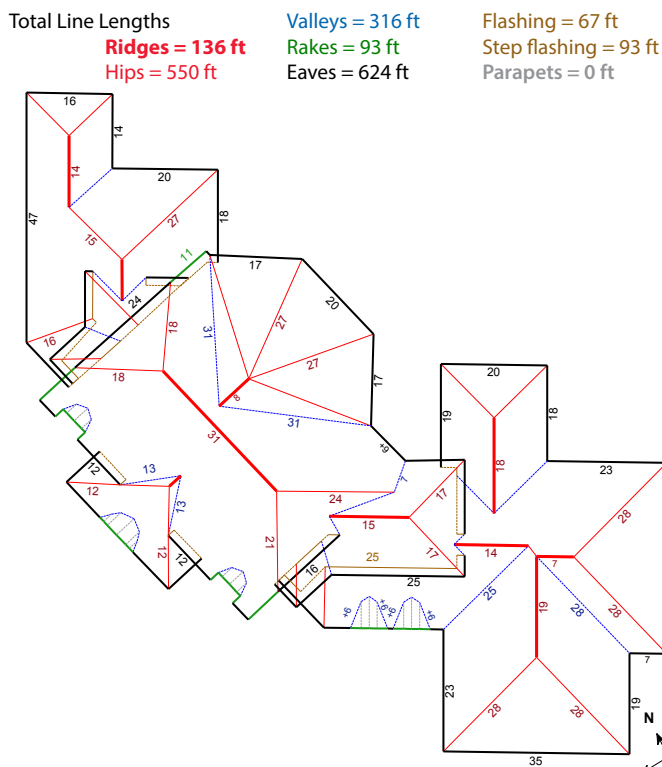
airplanes, the difference in quality between commercially available satellite images is even more pronounced in favor of plane based images. Contractors should ask about image resolution. The more accurate the images, the more accurate the measurement report based on those images will be. This will make a difference when it comes time to estimate materials and provide accurate quotes that you can stand behind with confidence.

Technology Creates Systems-Driven Approaches

In addition to saving time and effort measuring roofs, automating the process provides additional benefits for contractors as they discover process improvements in other areas of their business, right down to the types of employees they hire. Ken Kelly, president of *Kelly Roofing* of Naples explains that the “ability to accurately measure from above has revolutionized our business process. We no longer have to worry about hiring roofers as salesmen or spending a year in training.” Kelly says that his adoption of aerial roof measuring technology has given him the ability to hire sales professionals without sacrificing ability, accuracy or knowledge.

Two parts of an aerial measurement report. The length diagram (left) provides length in feet of each roof segment and the pitch diagram (right) provides the roof pitch in inches along with the pitch direction and the predominant roof pitch.

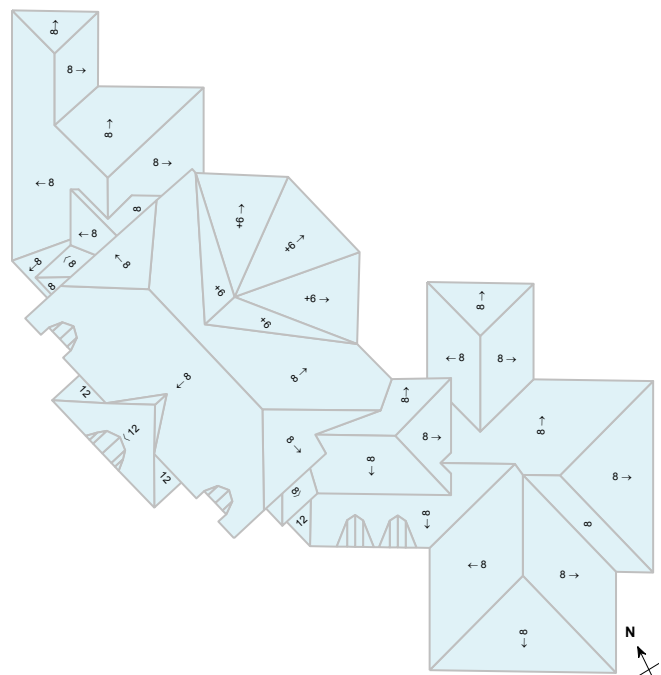
Length Diagram



Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5 feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

Pitch Diagram

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 8:12.



Note: This diagram contains labeled pitches for facet areas larger than 20 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3:12 and greater.

Arry Housh, president and CEO of Arry's Roofing Services, Inc. of Tarpon Springs, says that aerial measurement technology has allowed his company to put new systems in place for increased safety and efficiency. "We work on a lot of high-end custom homes where measuring and estimating was traditionally very involved and time consuming," explains Housh. "Using this technology makes it less dangerous for our estimators. It saves time, provides accurate takeoffs and gives us a professional presentation."

Incorporating the technology is paying off for Housh. "It definitely helps us better service the customer by expediting the process of preparing estimates. We also know the total bottom line number is more accurate so we stand behind that. We don't have to worry that we may have made a mistake on the measurement."

Ken Kelly cites technology as the driving force behind his company's ability to stay competitive in the tough economy. "As we integrate technology into more of our tedious and repetitive processes we discover new levels of efficiency," said Kelly. "Using technology allows our staff the time necessary to build solid relationships with our customers, suppliers and vendors without sacrificing daily duties."

Integrating technology into business has allowed for the development of a systems-driven approach to sales and operations. When a lead comes in, companies can order a roof report and assign it to a salesman. He takes that report and his laptop on the sales call, meets with the homeowners and estimates the job on site. The contract is printed right there

Aerial photograph of a commercial building's roof. Plane-based photography provides at least six times greater resolution and measurement accuracy than what is allowed via satellite photography.



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and the sale is closed in one trip. This approach pays off by helping to close more sales and, by making the process more efficient, technology allows more time to be spent with the customer.

Sitting in a customer's home, preparing an estimate and printing a contract may sound like a thing of the future but it's happening right now. Preparing estimates and bid packages is a vital part of a roofing contractor's business. It affects

Area Diagram

Total Area = 68,725 sq ft, with 16 facets.



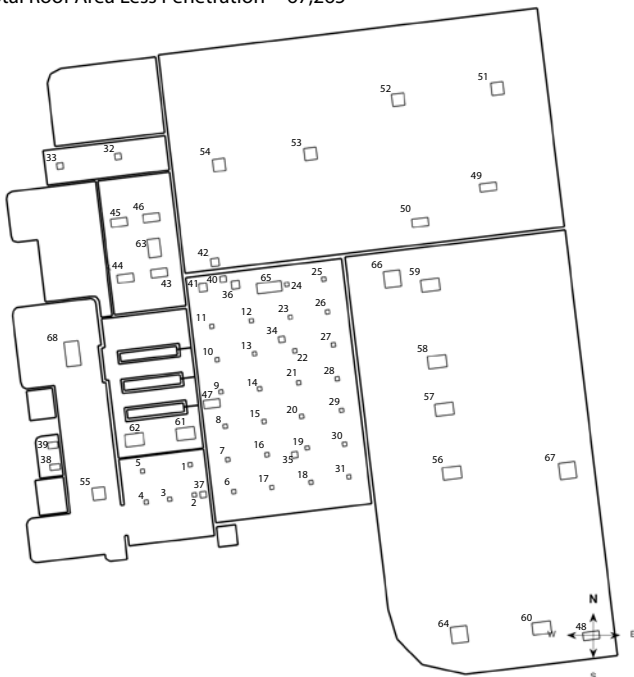
Penetration Notes Diagram

Penetrations are labeled from smallest to largest for easy reference.

Total Penetrations = 68 Total Penetrations Area = 1,460 sq ft

Total Penetrations Perimeter = 1,120 ft

Total Roof Area Less Penetration = 67,265



the sales process, the production and the profitability of a job.

The Evolution of Estimating Technology

Another once-manual process that was changed by practical technology is estimating. VisiCalc was the first spreadsheet program introduced in 1979 on the Apple II computer and was followed by Lotus 1-2-3 in the early 1980s. These spreadsheet programs proved to be extremely useful in helping contractors prepare estimates faster and in a professional format.

Estimating technology has progressed into the commercial estimating applications that are available and in use today. These software programs feature hard-coded formulas to reduce the user errors experienced with spreadsheet programs. These platforms are often very robust and provide a good solution for larger contractors with enterprise-level operations who are looking for job management, estimating and customer relationship management solutions. However, they are often cost prohibitive for mid-sized or smaller contractors.

Advancements in estimating software and platforms as well as the introduction of web-based solutions have put this tool within the reach of virtually any size roofing contractor. Not every solution will fit every business right out of the box so it's important to understand your company's needs, how the technology fits into your existing processes and what new efficiencies can be realized through the implementation of an estimating platform.

Chris Barrow said his company recently introduced a web-based estimating tool because of customer requests. "We had feedback from many of our customers that they wanted a way to take the aerial measurements they had come to rely on in their business process and see them flow into a simple estimate," explained Barrow. "This estimator is an answer to that request and is within reach financially for even the smallest contractor."

Building Your Competitive Edge

Continuing to differentiate your business through the use of technology is what's going to give your company a competitive edge in this tough economy. Building owners and homeowners respond positively to contractors who adapt to and utilize technology. Customers today are busier than ever and don't always have time for face to face meetings. They don't want to wait either. With the growing use of mobile communication, people have grown accustomed to receiving instant information.

Kelly Roofing says more than half of their business is conducted via phone, email, web or text. They see more of their customers asking for estimates to be emailed. "Without ever meeting with the decision maker we procure, complete and collect projects," said Kelly. "Imagine the amount of work contractors who haven't adapted to technology walk away from?"

Arry's Roofing Services reports that customers are very impressed by the company's use of technology. "Technology is viewed by customers as standard practice so when they see we are using it for takeoffs and roof estimation they welcome it," says Housh. He also says that it sets his company apart

from others. "Homeowners can see that we are an up-to-date contractor utilizing the latest available technologies and they want to work with us."

Implementing practical technology solutions into your business is no longer optional; it's mandatory for continued process improvement and profitability. Realizing its full benefit only happens when you make a commitment to integrate the technology throughout your existing processes.

-RFM-

Sealed Attics, continued from page 7

reduced drying potential of the system will increase substantially. This could lead to potential long-term accumulation of moisture in the roof system resulting in costly and potentially hazardous structural deterioration as well as possible health risks.

ARMA's *Technical Bulletin (Form No. 211-RR-94)* references "Shingle Application Directly Over Insulated Decks" and states:

This type of application is not recommended unless an adequate free-flow ventilation space is created between the top of any insulation and the underside of a nailable deck. Proper ventilation must be provided to dissipate heat and humidity build-up under the roof top. (See ARMA Bulletin 209-RR-86 entitled "Ventilation and Moisture Control for Residential Roofing.")

In addition to affecting roof performance, direct applications of asphalt shingles over insulated decks without providing proper ventilation may void the shingle manufacturer's warranty. Individual manufacturers should be consulted to determine possible effects on their product warranties when such applications are utilized.

For instance, looking at the installation instructions for *Atlas Roofing Corporation's* Pinnacle 35 asphalt shingles reveals "Spray foam insulation applied directly to the bottom of the decking will void the warranty."

More Research Needed

FRSA recognizes the need for research on the effects of sealed attics in the Florida climate and may commission the *FRSA Educational and Research Foundation* to study the issue. At the committee meetings, Tim

Karen Edwards is the marketing director at EagleView Technologies, Inc., Bothell, WA. Prior to EagleView, she held marketing positions with Carlisle Construction Materials and HJE Marketing. She holds a bachelor's degree in Communications and Public Relations from Millersville University, Millersville, PA. FRSA contractors can use their member discount coupon book to receive two free EagleView roof measurement reports through September 30, 2013.

"Spray foam insulation applied directly to the bottom of the decking will void the warranty."

Atlas Roofing Corporation General Instructions for Pinnacle 35 Asphalt Shingles

Graboski of *Tim Graboski Roofing Inc* of Delray Beach mentioned sealed attic research that is currently being conducted by the *Department of Energy's* Dr. William Miller at the *Oak Ridge National Laboratory*. For now, the real-world research being conducted on the homes of Florida citizens will continue with the installation of every sealed attic: results pending.

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