

# **SIGN**

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## **The Pentagon Memorial**

# A Piece of History

BY TERRI CHANCE

**Company:** Smart Design Inc., Woodbridge, Va.

**Owner:** Shelly McMahan

**Specialty:** Carved signs

**Years in Business:** 2

*Providing hand-carved signage for a powerful piece of architecture.*

**B**E CAREFUL what you wish for, because it might come true. Have you ever wished for more business than you could handle? Well, be careful what you wish for...

Shelly McMahan, owner — and one of only three employees — of Smart Design Inc. in Woodbridge, Va., says that for almost every day of the two years she's been in business, she's put in 20 hours a day, seven days a week.

McMahan's remarkable talent has contributed greatly to her success of course, but add a federal government contract, and business is bound to go nowhere but up.

## MILITARY BRAT

She said she was born an artist, was even offered a four-year college scholarship for winning a congressional art contest, but McMahan turned it down to go into the U.S. Army.

"There are a lot of things that civilians don't realize about the Army," she says, like the fact that it offers an Army Artist Program.

So McMahan did a lot of portraits for the *higher-ups*, including painting one of the late General Dwight Eisenhower.

After her stint in the service, McMahan, who was serving in Germany,

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Shelly McMahan in front of one of the many, many signs she supplies for the U.S. Pentagon.



The Pentagon design teams provided the design and graphics for the Department of Defense's 50th Anniversary Exhibit. McMahan carved the dates into all 18 acrylic panels. A framing company delivered gold-leafed frames to Smart Designs where McMahan, her brother Jim, and Ibrahim, assembled the panels, provided the LED lighting and electrical connections and installed them in one of the hallways at the Pentagon.



This acrylic carving represents the Defense of Freedom medal, created after the tragedy of Sept. 11, 2001. It's awarded to civilians who were injured or lost their lives in a military action. McMahan carved this and a matching Purple Heart window from the back of clear acrylic.



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This 20" x 36" plaque was created to illustrate winners of an award. McMahan carved the gold lettering in reverse on the back of clear acrylic, but wanted to find an easier way to produce all the text that runs down the left side of the plaque. She scanned the subject's photograph and typed the text, then sent it all to her Gerber EDGE, where it was printed in reverse on dusted crystal vinyl using one spot color, white.



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Shelly McMahan and SmartDesign provided all the carved acrylic panels for the USO, ranging from the 1940s through the new millenium. In all, there are a total of 34 panels.



Just after the late night installation of the Memorial Exhibit, McMahan's brother Jim, and only other employee, Ibrahim, display their work.



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Also carved from the back in clear acrylic, the text was backfilled with gold paint, giving the viewer the impression that the letters are floating. The acrylic was placed over a plaque and sculpture done by another artist. The shadow thrown from the text to the plaque behind it was an accident, says McMahan.



**This HDU emblem is 24" around and 2" thick. McMahan painted it with an airbrush. It was clear coated so visitors can touch it.**



decided to stay in Europe and says she did the “starving artist bit,” scrounging up portrait work here and there. When she could no longer make ends meet, she got a job as a civilian with the army, doing design and artwork.

Finally leaving it behind, she moved to California and went to school. A friend from Germany, who was now working for the Pentagon, called McMahan and asked her to come to Washington and apply for a job as a designer.

“I had learned to work on [the government’s] proprietary graphic system

that they also use at the Pentagon, and there weren’t a lot of people who could use it,” she says.

So, in 1993, she packed up and moved east, and began a seven-year career at the Pentagon.

Another thing that civilians may not know, McMahan says, is that the Pentagon has its own design departments — as many as 17 of them, in fact. Each supports its own service or organization. McMahan was designing for the Air Force division. She explains the work she did: “When a general has to go up

and brief congress on something, we’d make the slide show. It was a wide range, just like any other graphics shop.”

Not quite. If any other graphics shop is putting together a 3D, multi-media presentation for safety instructions when flying on Air Force One, then yes, perhaps the design departments at the Pentagon are like any other graphics shop.

Just two years ago, McMahan left the Pentagon to start her own business. She’d gotten interested in creating displays for trade shows and retail venues, and says she “bluffed my way into some other jobs from there.”

Because she was so involved with a number of other projects during her time at the Pentagon, McMahan says she thought it was time to go out on her own. “I thought if I could work three jobs, I could start my own business. I don’t know what I was thinking!” she laughs.

Her connection with the Pentagon has enabled her to provide them with various signage, simply because it was easier for her to be allowed on the grounds.

An excellent case in point is when our national treasure was attacked by a suicide bomber on that fateful Tuesday last September.

“When *Nine-Eleven* happened, “she says, “I was really familiar with the guards and had more access to the Pentagon than other contractors, so they were calling me in at all hours.”

She was immediately called on to provide safety and disaster relief signage for the devastated area. At that time, McMahan worked alone, although her brother and partner, Jim, who takes care of office paperwork, was able to help her. She hired an old friend to lend a hand getting the signs fabricated and installed during that period of chaos.

“Part of the building was torn up, but I was able to go right to the site and put up signs for hazardous areas, what protective gear to wear, or signs instructing workers to watch for falling debris. The signs had to go up right away. Sometimes I didn’t get to sleep for days.”

Most people couldn’t get close to the building at that time, and although she



This agency was created after the 9/11 tragedy. The design was supplied by the Pentagon, but was not made to be dimensionalized. Using her 3D ArtCam software, McMahan had to re-work the design so that there were raised and sunken levels to the emblem. After carving with her router, McMahan admits she usually goes back over everything by hand to touch up the carving.



knew many of the guards, the U.S. Army was brought in to surround the building, supplying extra security. She stresses that security was so tight after the bombing that she'd have to wait for clearance to get in, up to an hour at times.

### ALL WORK AND NO SLEEP

The lowest bidder wins, McMahan says, and for the bigger projects she's completed for the Pentagon, she's had to bid on them like everyone else.

In December she was asked to bid on (and won) a memorial project dedicated to those lost in the September attack. And the government wanted the finished project in just five weeks.

"I told them I would need five weeks from the day they gave me the electronic files, because I know how that game goes," she laughs.

It was a rush job to be sure, but eventually everything got put on hold for one reason or another. After loose ends were tied up, she got a call on April 3 and was told the memorial exhibit had to be in place by the 19th of the same month. But that's the way things work out sometimes, she says, and once again McMahan found herself working a lot of hours with very little sleep.

The exhibit consists of several pieces, with a centerpiece of a 2-foot diameter replica of a small lapel pin.

At the same time the Memorial was being fabricated and installed, the powers-that-be at the Pentagon decided it was time to recognize the last 50 years of service provided from the Department of Defense. They wanted something lining the corridors that visitors would walk through on their way to visit the Memorial.

During the previous year, ideas were tossed around, prototypes were built and sent out, and finally, says McMahan, the Pentagon called on April 19 and said they needed the 50-year exhibit installed by May 3.

McMahan created 18 4x8 printed panels that were sandwiched between carved acrylic. Each is edge lit with LEDs and framed in 23-karat gold leaf.

It's hard to go from one direction to another simultaneously, she says, and still remain focused on the tasks at hand. But when she's asked to provide a sign or



This display commemorating the 50th Anniversary of the Berlin Airlift is in Berlin. McMahan says she enjoys her work so much because she gets to learn a piece of history. After WWII, C-54 cargo planes were sent to Berlin to drop supplies and food to the citizens. The eight acrylic carved planes represent how many C-54s it took to equal one of today's C-17 planes, also carved from clear acrylic. The hangar in Berlin is covered with skylights, allowing sunlight to cut through the clear sculptures. At the opening ceremony, McMahan met one of the pilots, known as the Candy Bomber. He was known for dropping candy to the children below. She says that some of those children—adults now—approached the pilot, still clutching 50-year-old chocolate bars and thanking him for his efforts. The U.S. Air Force graphic department provided the digital prints.



exhibit for the Pentagon, it *has* to be done, and it has to be done *on time*.

"There's usually some sort of ceremony that's related to the exhibit. It's been advertised and the invitations have already gone out," she says.

### DAYS AND NIGHTS

McMahan recently hired Ibrahim, an apprentice and student of sorts. But she admits that she has a hard time letting go of some of the work saying, "For what I do, at my level of quality, I'm so picky about everything and how things go out, it's hard for me to hire someone else."

But she needs Ibrahim along with her brother Jim, because she says she still wears many hats; she still hits the streets and sells her wares.

Days are filled with phone calls, sales and paperwork, and her evenings are occupied with sign fabrication — and installations for the Pentagon, where 24,000 employees tend to get in her way during the day.

McMahan has a Sabre 408 router, and all the standard graphics programs, but still finds herself reverting to hands-on work. There are projects in which the router is *too* perfect, she explains, or there are things that can't be done with a router. And, she adds, the router might even make a mistake, and it has to be fixed by hand.

And when it comes to her computer, she recalls that not long ago she was asked to create a plaque with a portrait relief on it. She used her art software, but says she couldn't achieve the effect she wanted so, "I ended up drawing the guy, scanning that in, and ad-libbing it from there."

Working that way, she says, is just quicker for her.

While she seems to be overworked, McMahan admits that she's still out there, looking for more work every day.

She says she hangs around the Pentagon — which is an unlikely activity, even for the most patriotic — and sticks her nose in some of the projects going on

throughout the five-sided building.

The Pentagon takes up a huge slice of her time, but McMahan also provides signage for many other venues, mostly working with designers for large companies.

"That's what I like to do — work with other designers who understand what it takes to get something done," McMahan says.

It's frustrating when someone walks in off the street and asks her what she does. It would take so long to explain it all, she says, it's a waste of her time and that costs her money.

And, since she believes the customer isn't going to understand the cost involved on such customized, precision work anyway, she tells them to take a walk — to the sign shop down the street.

Of course, if a customer requires custom signage, something they want to be hand carved, hand painted, trimmed with gold leaf and edge lit with LEDs, then McMahan is the woman for the job. **SB**

# United in Memory

BY TERRI CHANCE

*A memorial to the victims of September 11 is carefully carved, painted and placed at the site of impact.*



The emblem that hangs in the Pentagon is a memorial to the victims of the September 11 tragedy. It is located at the site of impact.

**S**HELLY MCMAHAN, owner of Smart Design, Inc., Woodbridge, Va., was already providing signage for the Pentagon in Washington D.C. well before the tragic events of September 11, 2001.

And because of her previous experience with the agency, she was called upon when it needed emergency signage just hours after the event, and again this past spring, when it was decided that a memorial should be created to pay tribute to the victims in our nation's capital.

The entire memorial exhibit, which is being moved to the actual point of impact this month, consists of 11 pieces, including a black carved acrylic plaque telling the story of that day, and portions of the President's speech; an aluminum emblem, two carved acrylic panels containing all the victims' names; an LED-illuminated carved display case bearing the Purple Heart and another for the Defense of Freedom medal; three

book holders, and two clear window acrylic carvings.

McMahan bid on the job like everyone else, but admits that her previous tenure as an employee of the Air Force design department may have contributed to winning the bid, because getting in the building was extremely difficult after the bombing. The design was created by the design teams at the Pentagon, and McMahan was asked to begin work on the fabrication.

Each piece is carved acrylic, something she's become well-known for, she says, because not many people will take that much time to carve so much text in a piece of acrylic. She estimates that it took about 30 hours for each of the two name panels, because the acrylic was not of uniform thickness, and had to be continually watched as it was carved.

"At one point," she says, "I was practically lying on the panels adjusting the depth of the v-carve bit as it went."

The art came to her as an Adobe Illustrator file. She brought it into her Omega software, then into ArtPath for the router. The black pieces were carved on the front and then airbrushed using silver paint.

The clear acrylic panels, such as the Defense of Freedom and Purple Heart Medals, were carved from the back.

Like the Purple Heart, which is given to those injured in battle, the Defense of Freedom Medal is awarded to civilians who are injured or killed through military action. This new medal was conceived after the September tragedy.

In the center of the display is a round logo measuring two feet across and two inches thick. Also created after the attack, the emblem, which reads *United in Memory*, was recreated from a lapel pin, produced by the design teams at the Pentagon.

McMahan admits that she was still a little unfamiliar with her router and ArtCam 3D software, so she called on *Sign Business* contributors Jim and Bill Hamilton of Richfield, Ohio's Northcoast Signworks.

They scanned the pin for her, then transferred that to their router where it was carved on 18 lb. Precision Board HDU. A prototype was sent back to



The original design for the Memorial emblem came from a lapel pin. Jim and Bill Hamilton of Northcoast Signworks scanned the pin and transferred the image to their router where they carved the original two-foot emblem from HDU.

Along with the lapel pin, McMahan supplied the Hamiltons with additional art-work.



Once the piece was routed, McMahan went back over it, "sharpening up" the image by hand.



A mold was made so that the emblem could be cast, and additional copies could be produced if necessary.



The black acrylic surrounding the "United in Memory" emblem was carved from the front, so a mask was applied to protect the material from scratching.

The cast emblem was sent to LuminOre where it was sprayed with an aluminum metal composite.



McMahan says that oftentimes she doesn't see her own work until it's installed and the masking is finally removed.

McMahan, who took the routed piece and fine-tuned it by hand.

She decided to have a mold made of the emblem and returned the HDU piece to Jim and Bill. The Hamiltons created the mold and sent the DynaCast two-part urethane emblem to LuminOre, where it was sprayed with an aluminum composite metal.

LuminOre founder Tom Valente offered the service free of charge, recalls McMahan, because he was proud to be a part of the Memorial project.

Once the emblem was sprayed and buffed to a beautiful shine, it was returned to McMahan. Using 1 Shot paints, she hand-painted the red and blue of the American flag.

She then lightly airbrushed a blackened finish, giving the emblem a worn quality. Finally, a clear coat was applied to protect the emblem from the many hands and fingers that would be touching it.

And touch it they do, says McMahan. After the opening ceremony in May, to which the families of all the victims were invited, she says she received a report telling her that not only were the attendees rubbing their hands over their loved one's name, but were touching the entire exhibit.

SB



The center panel and the panels on either side were carved from the front, and airbrushed with silver paint. Visitors to the exhibit not only rub the names, but are allowed to touch all the pieces.

