

THE THOLOS

VOLUME 10

FEATURE

Dancing by Dawn's Early Light

COOL TOOLS

Capitol Materials Cart

HIDDEN HISTORY

№ 1938 Rediscovering Blackjack

SKELETON OF

NEW DOME

U.S. CAPITOL

SCALE 3/8"

*W. D. Shunklin
Capt. Topo. Eng.
in Charge
Jan. 11, 1866*

*Original written on
Instr. for S. D. 25, 1867*

15. 7/8
19. 1/4
12. 11/16
86. 10

PLAN, LOOKING DOWN... & ELEVATION.



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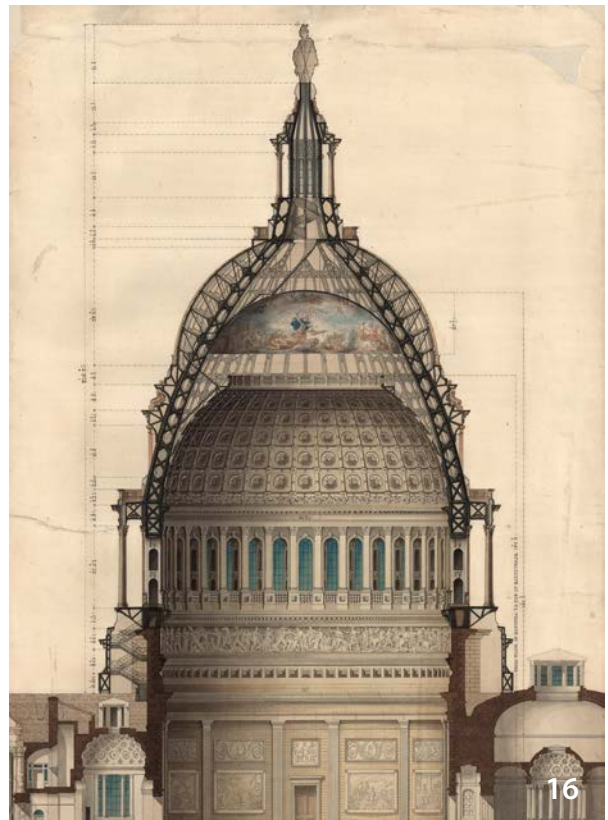
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**with Acting Architect of the Capitol
Christine A. Merdon, P.E.**



Q: You have previously stated that working for the Architect of the Capitol is a lifelong dream come true for you. What lit your spark of passion for tackling the mission to “serve, preserve and inspire”?

A: My mother is my biggest role model. She is an immigrant who moved to the United States, supported three children working as a hairdresser while also earning college degrees at night. Her journey, in my view, is the American dream. Inspiring others through my service by preserving our national monuments is my way of giving back for all that this nation has given my family.

Q: In addition to the remarkable work you do on the U.S. Capitol, Supreme Court, House and Senate office buildings, Library of Congress facilities and the U.S. Botanic Garden, what other projects informed your executive skills?

A: During my time in the private sector, I worked on major construction projects:

- Washington Nationals Major League Baseball Stadium
- O'Hare Airport Modernization Program
- Los Angeles Unified School District
- Martin Luther King, Jr. National Memorial
- Smithsonian Institution's National Museum for African American History
- Abraham Lincoln and Thomas Jefferson Memorial Renovations
- White House Military Office

These experiences taught me many things, the most important being perseverance. Many of these projects were difficult, but moving forward with determination and doing it regardless of the challenge ultimately led to the team's success. These experiences are relevant to our projects on the Capitol campus.

Q: What is your vision for the Architect of the Capitol?

A: I am committed to successfully meeting the agency's mission with a progressive focus on people, projects and preservation. I want to foster an atmosphere of accessibility and transparency to attract and retain talented employees who are engaged and passionate about their work; support projects that are forward-focused and incorporate a broad view of the structure and needs of the Capitol campus; and position the agency as an authority on historic preservation.

Q: What's the most rewarding part of your job?

A: I get to do something different every single day. There is never a boring week, and there is always a new challenge to tackle. The team at the Architect of the Capitol are some of the best tradesmen, craftsmen, architects, engineers and service providers in the world. It is a dream to work with them in our nation's capital.



THOMAS JEFFERSON BUILDING

WEST MAIN PAVILION ROOF & ATTIC

Photos by AOC Photo Branch & Library Buildings and Grounds Jurisdiction

The Architect of the Capitol's Library Buildings and Grounds jurisdiction recently completed two major projects for the Thomas Jefferson Building. The work was a team effort with nearly every construction trade shop from the Library Buildings and Grounds involved in one or both of the projects.

Library Buildings and Grounds replaced the roof of the Jefferson Building's west main pavilion. The project included replacing about 9,000 square feet of copper roofing, installing six additional roof drains, and replacing the catwalks and the Great Hall's skylight.

The project to renovate the Jefferson attic included unique spaces that once housed the House page school and had been unoccupied since 2011. Renovations included 16 former classrooms and assembly space totaling 8,400 square feet. Work included lead abatement, plaster repairs and the installation of new carpet, electrical systems and data infrastructure. The space is now home to offices and meeting space.



Donna Blake prepares the last coat of paint for walls located in the Jefferson Building's attic.



A view of the newly installed copper roof on the Jefferson Building's west main pavilion roof.



Will Guzman installs cornice trim in the Jefferson Building's attic.



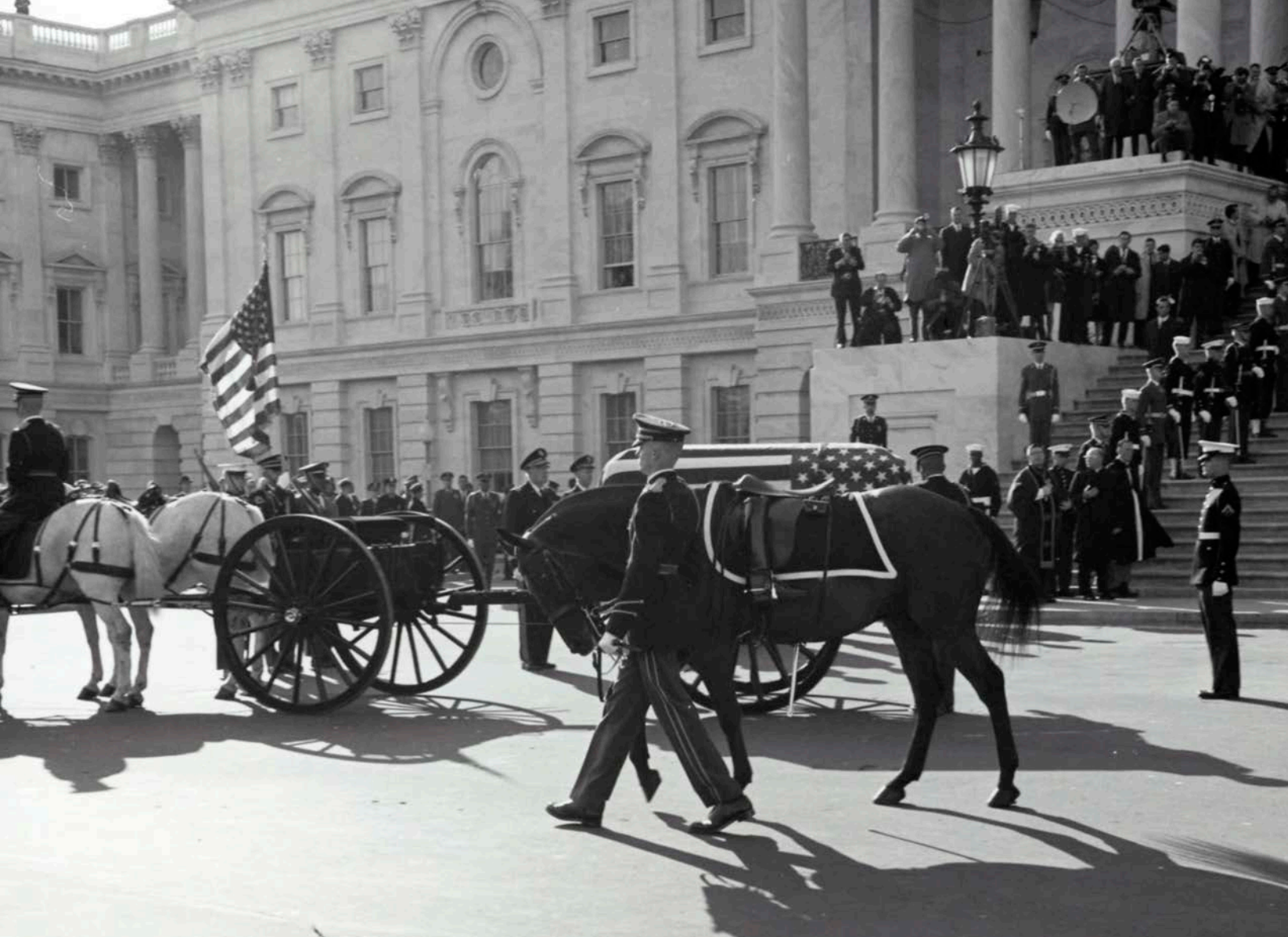
The House page school's chemistry lab before (left photo) and after (right photo) recent renovations by the AOC's Library Buildings and Grounds jurisdiction.



Rediscovering Blackjack

Written by Erin Courtney | Photos by AOC Photo Branch
& Capitol Building Jurisdiction

Numerous iconic moments emerged in the aftermath of the assassination of President John F. Kennedy: Jackie Kennedy refusing to take off the blood-stained dress following the murder; the toddler of the 35th president saluting his father's casket; or young Caroline kneeling in the Rotunda and touching the flag-draped remains. The most persistent memory for many Americans was the energetic and riderless horse who pranced through the streets of Washington, D.C., behind the caisson.



Blackjack on the East Front Plaza of the U.S. Capitol Building next to the casket of President John F. Kennedy. Photo courtesy of AOC Photo Branch Archives

The horse was Blackjack, a Morgan and American Quarter mixed-breed horse. Born in January of 1947, Blackjack entered the Third United States Infantry Stables at Fort Myer on November 22, 1953. The spirited horse was deemed too difficult to ride and began service as a caparisoned (riderless) horse for funerals at Arlington National Cemetery. During his tenure, Blackjack took part in the funerals of Presidents Herbert Hoover, John F. Kennedy and Lyndon B. Johnson as well as General of the Army Douglas MacArthur.

**HIS ENERGY SEEMED TO EMBODY
THE NATIONAL FEELING THAT
THE YOUNG PRESIDENT FROM
MASSACHUSETTS WAS TAKEN TOO
SOON AND HAD MORE TO GIVE**

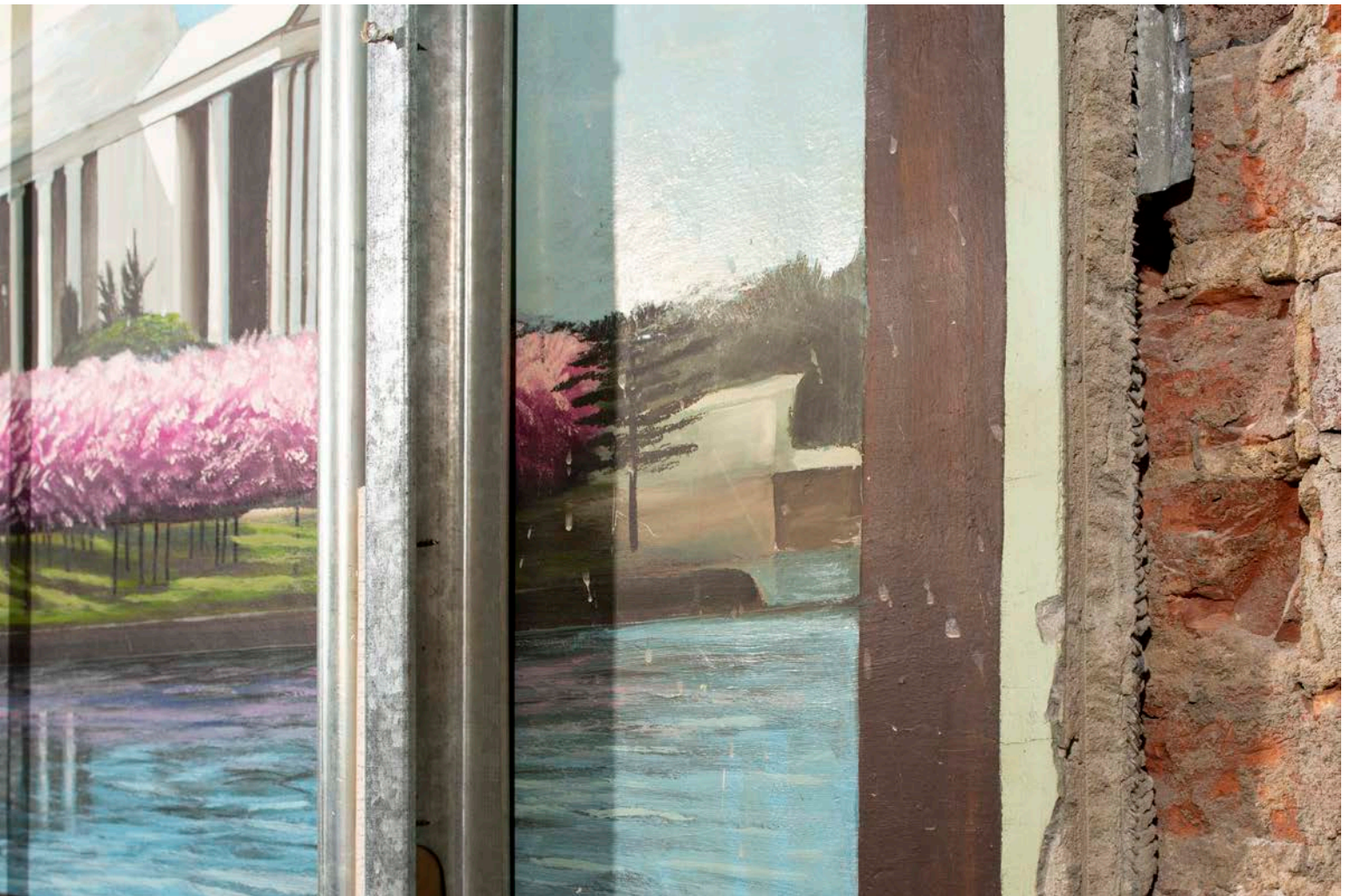
His participation in President John F. Kennedy's funeral made him a household name. The feisty horse struck a nerve. He danced and pawed at the

ground wearing a cavalry saddle, sword and backward boots in the stirrups, symbolizing the end of Kennedy's tenure. His energy seemed to embody the national feeling that the young president from Massachusetts was taken too soon and had more to give.

In the years that followed, Blackjack was memorialized in a variety of ways. The saddle, stirrups, sword and boots used in the funeral are in the John F. Kennedy Presidential Library and Museum. Statues, books and

even a Facebook account exist for feisty Blackjack. During a recent renovation at the U.S. Capitol Building, members of the Architect of the Capitol uncovered a long-forgotten painting of the famous horse. Today the room houses functions of the House Clerk, but it previously housed the Capitol Building Paint Shop and later part of the Flag Office.

The former supervisor of the paint shop, Joe Sarafin, regularly used the space as a studio to hone his craft.



A painting of the Thomas Jefferson Memorial by former AOC employee Joe Sarafin was revealed during a recent renovation.

“Joe would use the walls of the shop to practice different techniques, color schemes and paint products. He was extremely talented,” said Kevin Grooms, manager of the painting section.

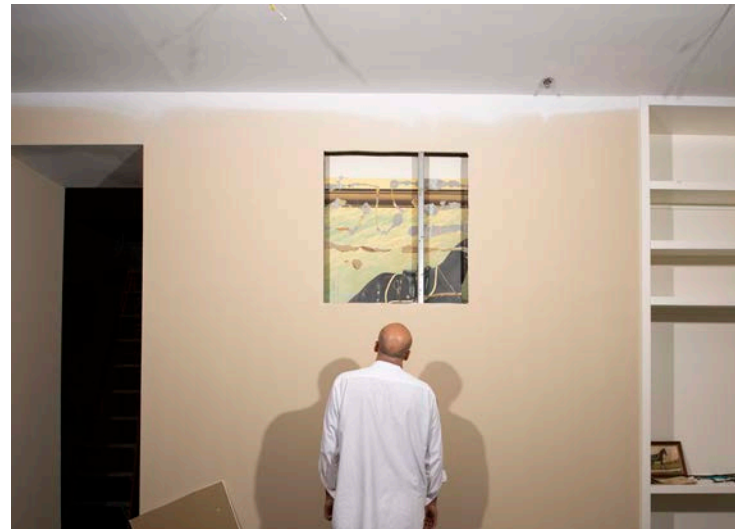
Karen Livingston, former Flag Office supervisor, confirmed Blackjack’s popularity on the Capitol campus. When she joined the office more than 20 years ago, her desk was directly beneath the painting. “Congressional staff regularly brought groups of constituents to our office to see the painting of Blackjack and the painting of the Thomas Jefferson Memorial located on the opposite wall.”

IT IS A PIECE OF HISTORY AND A FANTASTIC CELEBRATION OF AOC TALENT

Dwayne Thomas, facilities operations specialist and Kristy Long, deputy superintendent of the Capitol Building, worked with their team to frame out the paintings rather than recover the space with drywall after the discovery. “It would be a shame to cover over the paintings again. It is a piece of history and a fantastic celebration of AOC talent. I’m so happy we found it,” said Long.



Former AOC employee Karen Livingston poses with the Blackjack painting while holding the painting it was based on.



An AOC painter examines the Blackjack painting uncovered during a recent renovation.

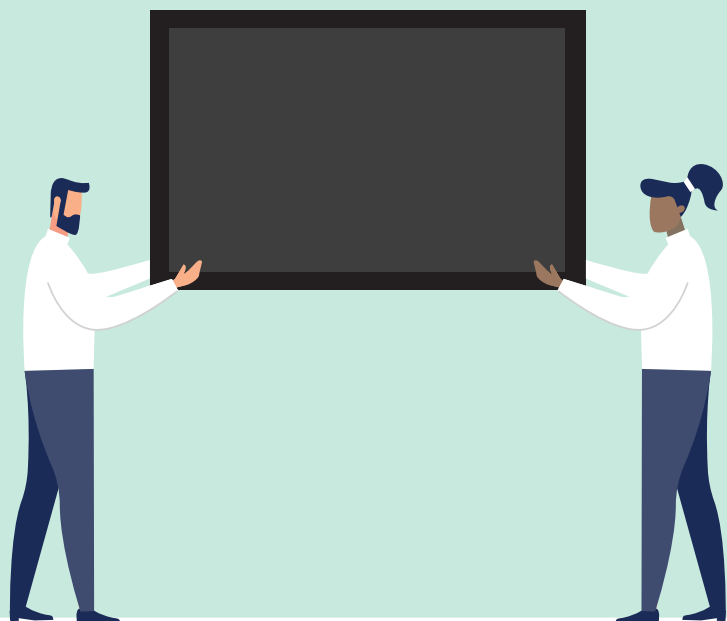
House Office Moves

Photos by Dewitt Roseborough

The U.S. House of Representatives just underwent one of the biggest transition cycles in recent history. The Architect of the Capitol's House Office Buildings jurisdiction is heavily involved in the corresponding work — this includes overseeing the lottery process for suite selections to moving all of the affected offices. The moves involve nearly every House trades shop as it takes a team effort to make sure every member has an office within one month.

AOC STAFF

Carpenters | Electricians | Painters | Locksmiths
Masons | Electronics Mechanics | Plumbers
HVAC Technicians | Laborers | Custodians
Sheet Metal Mechanics | Recyclers | Building
Inspectors | Maintenance Mechanics | Elevator
Mechanics | Architects | Move Coordinators
Front Office Staff | Information Technology
Specialists | Safety Specialists





GETTING THE JOB DONE

Managing move logistics | Removing pictures and shelves | Relocating power for new suite layouts
Changing or re-lamping lights | Repairing plaster and painting suites | Changing locks and providing keys | Cleaning rooms | Un-installing, moving and re-installing TVs | Installing cable/TV and legislative clocks
Tapping in new water filtration lines for office water coolers | Completing preventative maintenance on radiators and induction units | Moving boxes, flags and pictures | Hanging pictures and other memorabilia | Shredding papers and recycling items

THE LOTTERY & SUITE SELECTION

The House Office Buildings Superintendent's Office as designated by the House Office Building Commission is responsible for overseeing the lottery and suite selection process that assigns suites to members of Congress and their staff. Every two years following the election, newly elected or re-elected members and their staff review offices that have been vacated by previous members of Congress. These offices were occupied by members who retired, resigned, lost their primary or lost in the general election. These vacated offices are eligible for selection by members based on seniority and their selected number during the lottery process. Nearly every office is different, from window views to square footage and layouts. Members and staff can use the Architect of the Capitol's suite selection website to see details of each available suite, before the lottery.

Members can choose a suite in order based on their seniority and selection in the lottery of members that share their same seniority. The lottery position is determined by members selecting a number out of a box. Members then select a suite before it goes to the next person in the lottery. After making a selection,



Assistant Superintendent Barron Dill assists congressional staff with selecting a suite.



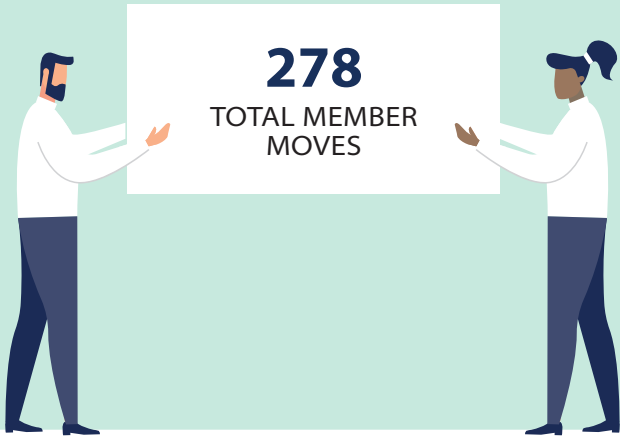
Superintendent Bill Weidemeyer oversees the lottery and suite selection process for House members.

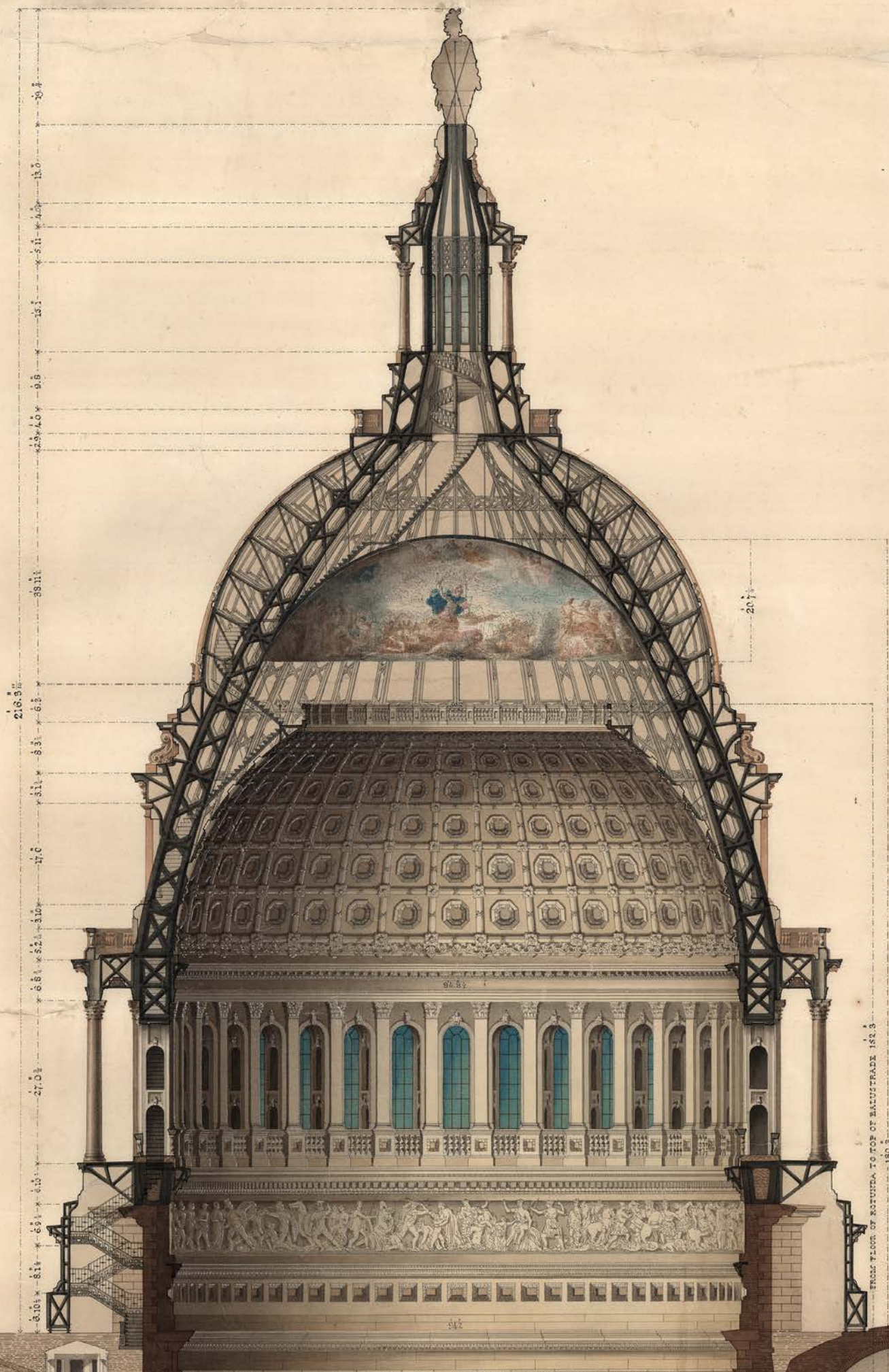
staff from that office meet with representatives of the Architect of the Capitol (AOC) and the House of Representatives Chief Administrative Officer (CAO) to layout their office, pick furniture, choose paint colors, and select carpet and drapes (if eligible for selection). Members who select a new suite give up their old offices, making it available for selection by another member. This creates a chain effect lasting until the members-elect pick from the remaining available suites. AOC and CAO move coordinators manage each chain. The move process begins in November, and all related work must be completed prior to the new Congress being sworn-in in early January.



AOC House Office Buildings employees work together to shrink wrap boxes, ensuring a safe move.

BY THE NUMBERS





FRONT VIEW OF ROTUNDA TO TOP OF BALUSTRADE 1863

1863

DANCING BY DAWN'S EARLY LIGHT

Written by Franklin Bradley
Photos courtesy of AOC Photo Branch Archives

Did you know that the 15,000-pound bronze Statue of Freedom, standing atop the 9 million pounds of cast iron of the U.S. Capitol Dome, dances every day?

This motion has long been known. The fifth Architect of the Capitol, Edward Clark, replied to a query by stating, "The statue on the Capitol has a motion."

While her limbs don't move, the entire structure atop the U.S. Capitol moves in a slow circle every day. Despite this constant movement, the Dome still stands strong.

How is this possible?

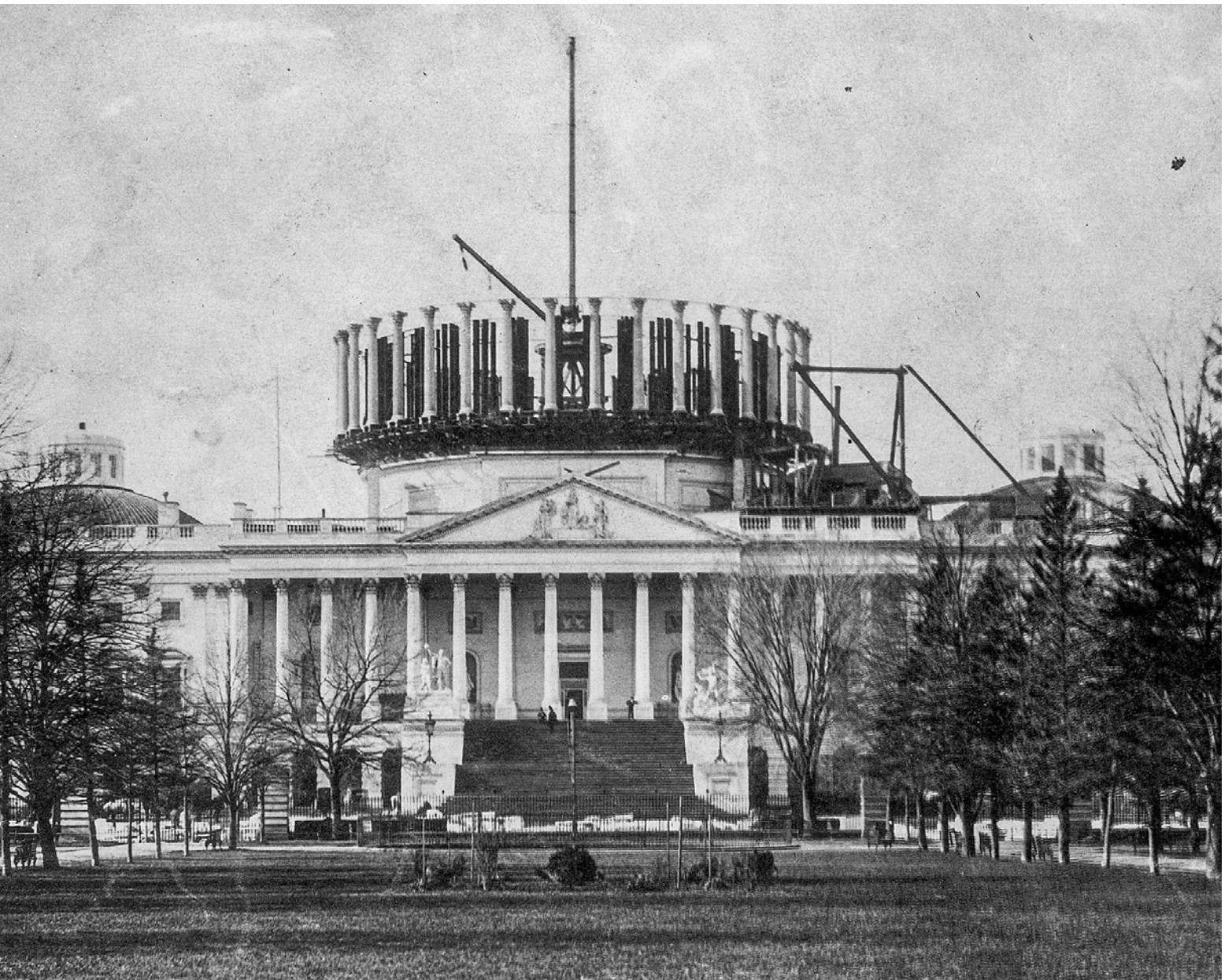
MANY QUESTIONS. ONE ANSWER.

The answer is in the Dome's design, created by Thomas U. Walter. Walter was the Architect of the Capitol from 1851-1865, during the extension of the U.S. Capitol to accommodate a Congress that was growing as the country expanded. His drawings showed that the original wooden Dome, clad in copper, would be too small and get overwhelmed by the mass of the extended building. However, Walter couldn't simply build a larger dome where

the old one stood. First, he had to solve many intertwined problems. Walter found a single solution for all of these issues that was as elegant as the final structure he designed, but it also created the movement in the Dome.

LARGER, BUT LIGHTER

Walter knew that any new dome would have to sit on the existing base, a ring of sandstone blocks atop the Rotunda. This opening was smaller in



Dome construction from the East Front showing the cast iron columns standing on brackets outside the original sandstone Rotunda walls.

IF HE COULDN'T FIND A WAY TO KEEP THE DOME FROM THRUSTING OUTWARD, THE SANDSTONE COULD ALSO CRACK AND EVEN FAIL



Dome construction from the East Front with the crane rising above the original sandstone Rotunda walls.



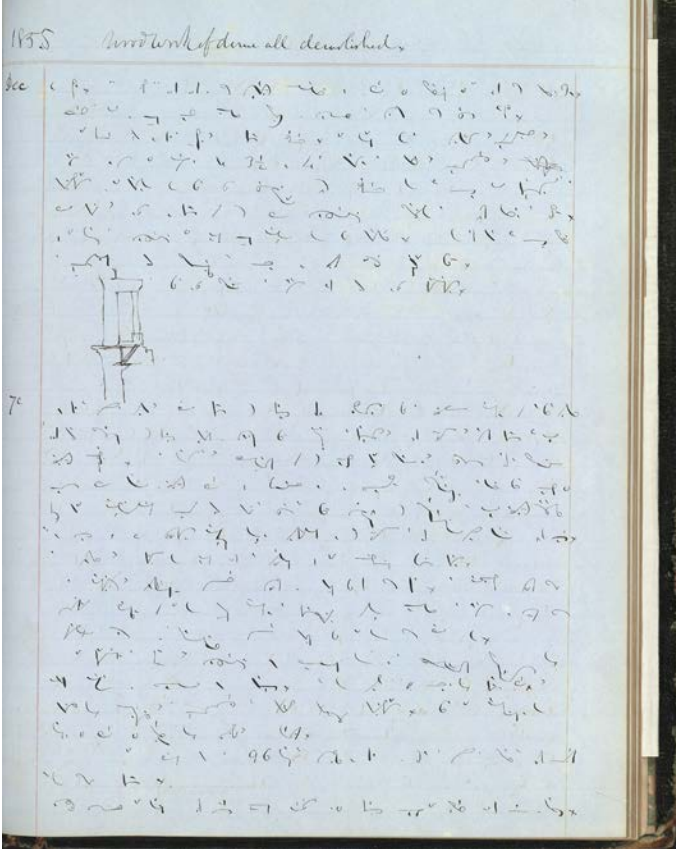
Dome construction from the West Front, showing the Dome skirt as a dark line below the Dome columns.

circumference than needed for a dome tall enough to be proportionate to the enlarged U.S. Capitol. The sandstone posed another problem: it couldn't bear the weight or the expansion forces of a larger dome made of traditional stone or masonry materials.

Walter had traveled to Europe and studied the large domes there, including the dome atop St. Paul's Cathedral in London, which weighs 132 million pounds — too great for the Rotunda walls to support. Additionally, the weight of the dome would thrust outward at the base, exerting expansion forces, much like pressing down on the top of an inflated balloon causes it to bulge. The most common solution is to surround the dome with heavy masonry reinforcements that contain these forces.

However, previous builders couldn't accurately calculate how much reinforcement was needed. Walter had also visited the masonry dome of St. Peter's Basilica in Rome, where this expansion force caused large cracks to form 200 years after construction, showing the weakness of stone, which is much stronger when being pressed on than when being pulled to expand. Ultimately, several tension rings had to be placed around the dome to stabilize it.

The sandstone ring at the base of Walter's new Dome lacked the mass needed to restrain such forces or the strength of the stone used in St. Peter's. If he couldn't find a way to keep the



Meigs' journal sketch of a bracket for the Dome columns.

Dome from thrusting outward, the sandstone could also crack and even fail.

HOT HIGH-TECH SOLUTION: CAST IRON

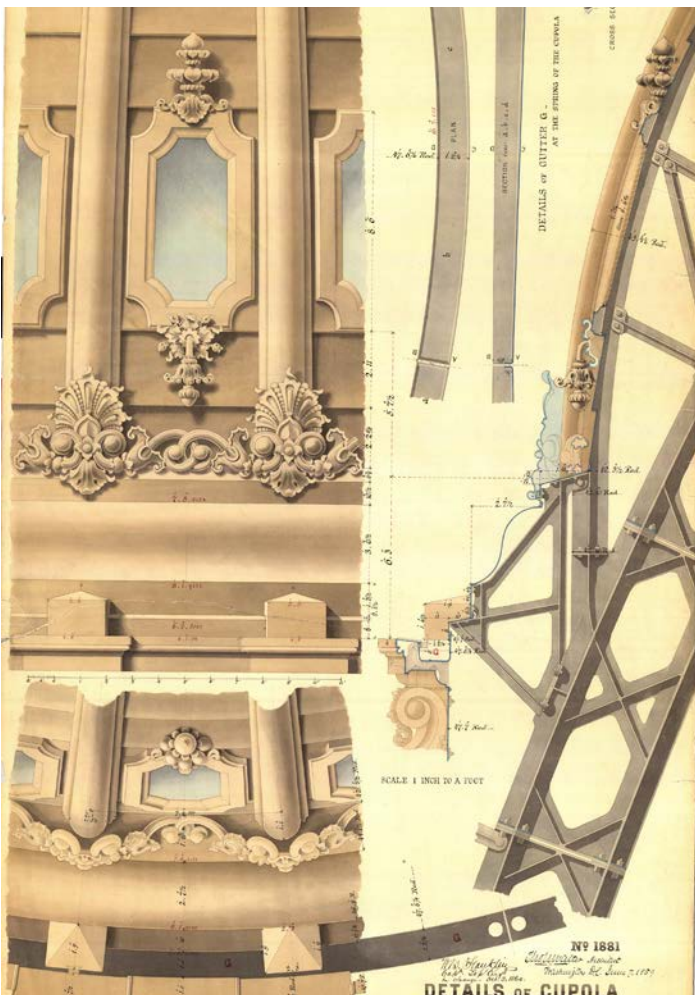
Even if he could build a lighter Dome that sandstone could support, Walter would still have to control the expansion forces and place this towering, wider structure on a narrower perch. The solutions to these three problems were intertwined and relied on a material that had been in use for more than 2,000 years, but its use in constructing large buildings had only just begun when Walter started his design: cast iron.

Anyone who has used cast iron cookware wouldn't consider it lightweight compared to modern steel or even aluminum pans, but Walter accurately estimated that his iron Dome would have a total weight that was approximately 7 percent of the similar-sized St. Paul's Cathedral dome. The weight reduction is the result of technological, architectural advances from the cast iron construction boom, such as cast iron columns that are much more slender than masonry supports.

METAL IN MOTION

In addition to allowing for lighter construction than masonry, cast iron also expands more than stone or brick when it is heated. The result is that any structure built with iron, or any metal, must

**THE STATUE OF
FREEDOM THAT
STANDS ATOP THE
DOME BEGINS
A DANCE AT DAWN
EVERY DAY**



Thomas U. Walter's drawings detail the many pieces of iron that are connected in a way that secures them and allows for motion.

accommodate for expansion and contraction when the metal gets cold. One of these accommodations that most people have encountered is expansion joints in bridges.

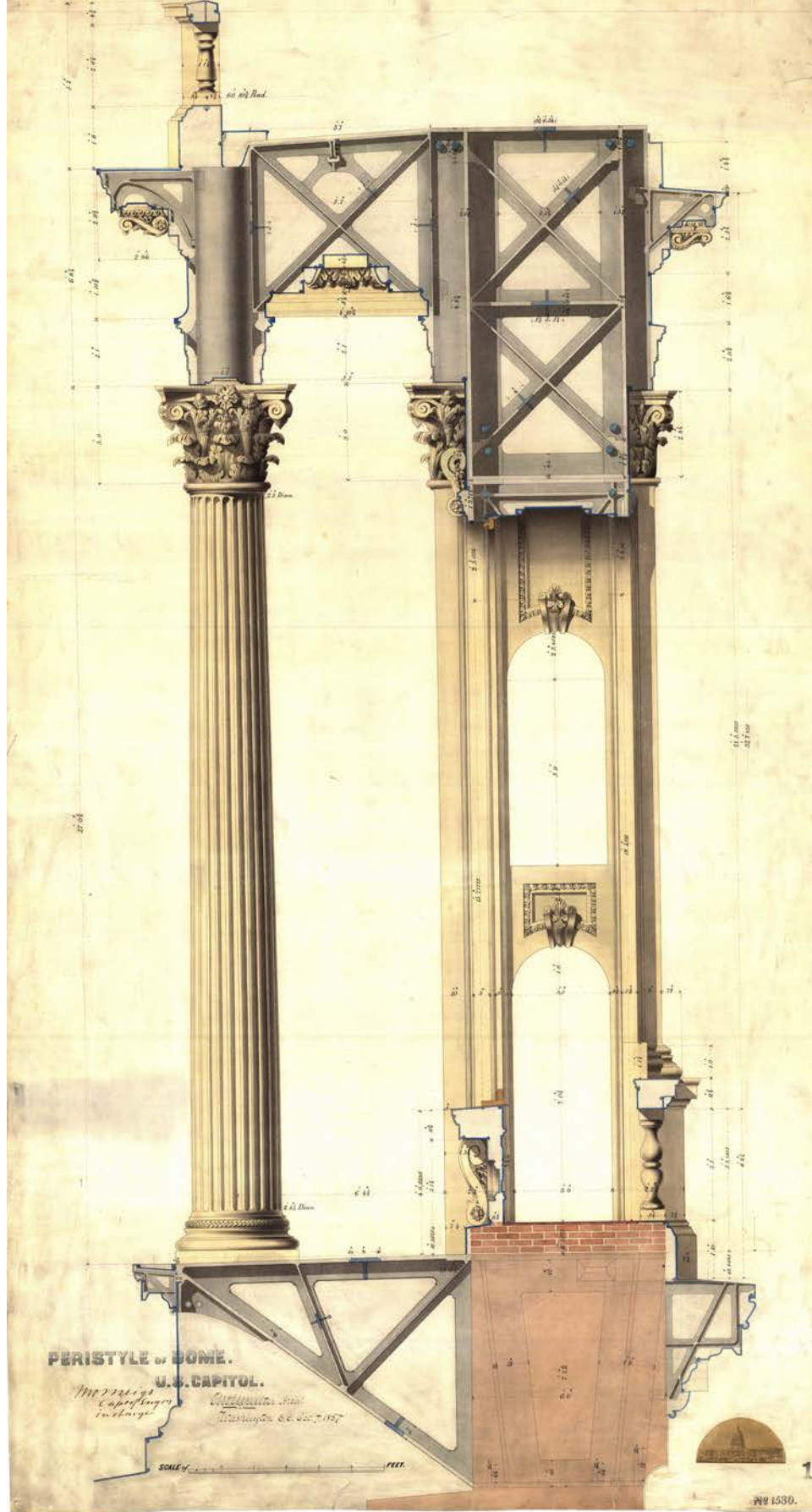
These joints often appear as metal strips running across the roadway, sometimes filled with rubber. By creating a space into which the metal structure of the bridge can expand, these joints are a way of avoiding the buckling and bulging that would occur without them. However, Walter surely didn't want rubber rings to stripe his beautiful design, so he would have to find another way to accommodate the motion caused by the expansion and contraction of the iron.

Before he did that, Walter still had to ensure that he could place his wider Dome atop the narrower Rotunda walls.

INGENUITY FROM BOTTOM TO TOP

Walter's design details 36 columns surrounding the base of the Dome that resemble the intricately carved stone monoliths of Greek and Roman temples. Unlike their ancient ancestors, however, Walter's cast iron columns would be light enough that they could stand outside the Rotunda walls on iron brackets attached to a brick structure built atop the sandstone base.

This makes the base of the Dome appear broader than the opening of the Rotunda while retaining the interior dimensions. The illusion continues below the bases of the



Thomas U. Walter's design for the bracket Meigs sketched and the column and brick structure it connects.

cast iron columns in a structure referred to as the Dome “skirt.” The iron skirt, which appears to be a solid base for the Dome, is actually a hollow structure that visually connects the new Dome to the original roof of the U.S. Capitol.

Inside the Dome structure, 36 cast iron ribs, corresponding to the exterior columns, stand on top of the walls, bearing the weight of the upper Dome. This weight is carried down the curved portions of the ribs and thrusts outward where they become vertical, mirroring the columns standing above the skirt. An ingenious compression ring designed by Montgomery C. Meigs, engineer of the U.S. Capitol during Dome construction, contains the thrust and converts the expansion to a compression force, pressing in on the ring of sandstone blocks that form the Rotunda walls.

OUT OF MANY PIECES, ONE DOME

Cast iron allowed Walter to create a lighter and broader Dome than the existing foundation could support while controlling the expansion forces that threatened the traditional masonry domes he had studied.

However, still, it moved.

Although it doesn’t happen often, temperatures in Washington, D.C., can drop to zero during the winter and rise to 100 in the summer. A 10-foot-long piece of cast iron heated by 100 degrees will grow by about 1/16th of an inch. This amount of expansion is manageable, but Walter had to accommodate it in his design.

Rather than building in a few large expansion joints, however, Walter designed the iron structure to be assembled from many pieces of iron. They attach through connections that

simultaneously secure them and allow a small amount of motion. Through these thousands of links between pieces, Walter’s Dome absorbs most of the motion of the metal.

However, at dawn, while the western side of the Dome still faces the cold darkness of the fading night, the sun heats the eastern side. As the sun rises through the day, the southern side of the Dome rises in temperature faster than the shaded northern portion. At sunset, the eastern side is already cooling while the western side is absorbing the last heat of the sun before night falls.

This uneven heating is what causes the Statue of Freedom to move slightly toward the west at dawn, as the eastern side of the Dome expands, to the north at midday, and the west in the evening, as the sun sets. During the night, the Dome returns to a uniform temperature and a neutral position.

DANCING BY DAWN’S EARLY LIGHT

Even on the hottest of days, however, it would be difficult to discern this motion. Mr. Clark’s report stated that, “The statue on the Capitol has a motion...The entire length of the line of oscillation of the plummet from the eastern limit to the western limit is only four and a half inches.”

It may be only a few inches, but still, as you admire the uniquely American ingenuity of Walter’s cast iron design, you will know that this solid structure and the Statue of Freedom that stands atop it begin a dance at dawn every day.

287.6' FROM GROUND AT BASE OF BUILDING EAST FRONT

217.1' FROM TOP OF BALUSTRADE

Vertical dimension lines on the left side of the drawing, with numerical values: 19.3, 12.6, 4.6, 1.6, 3.8, 6.9, 30.6, 33.1, 1.6, 33.1, 30.6, 17.0, 35.8, 27.0

-DIAMETER 10.2

18.5

20.1

24.1

35.1

88.3

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104.2

104.2

108.1

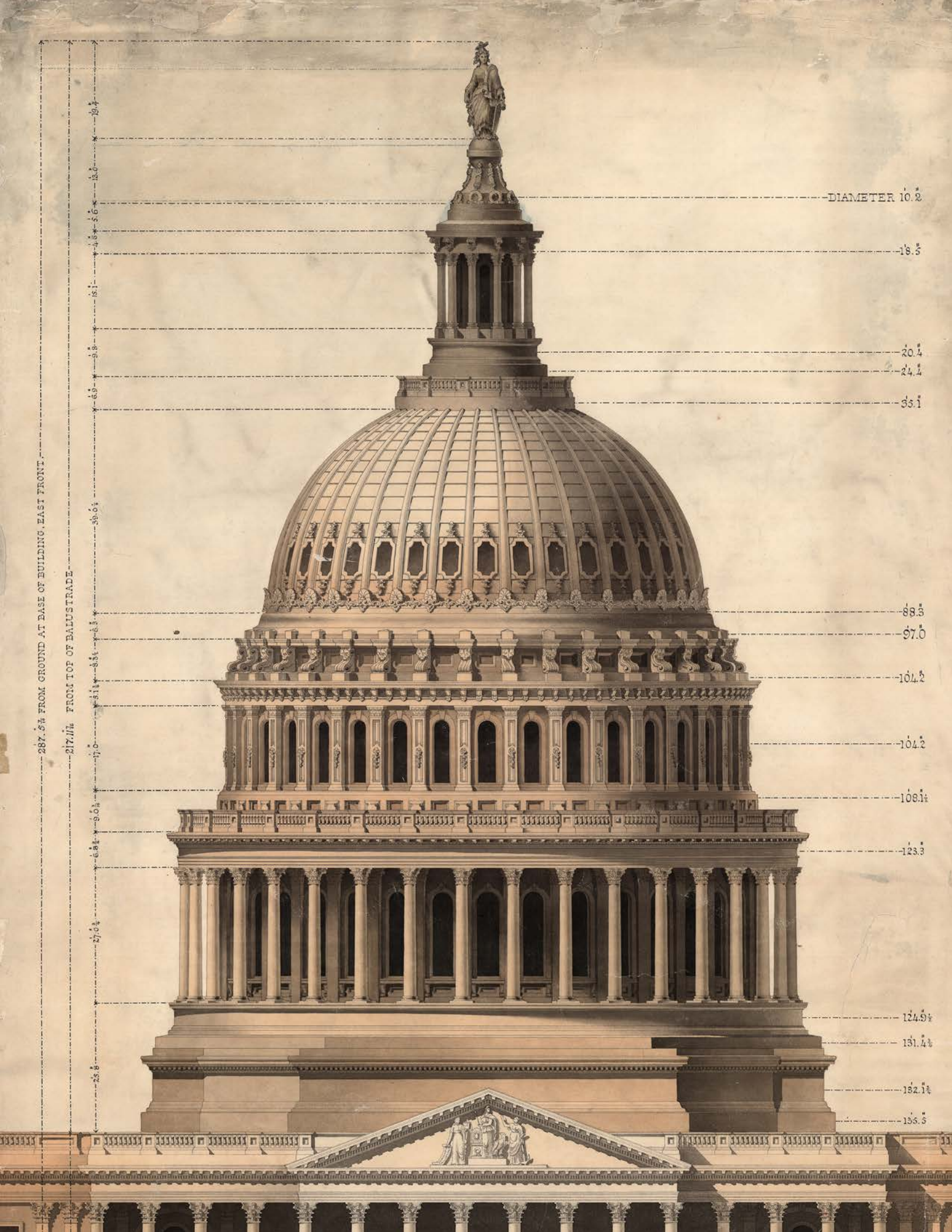
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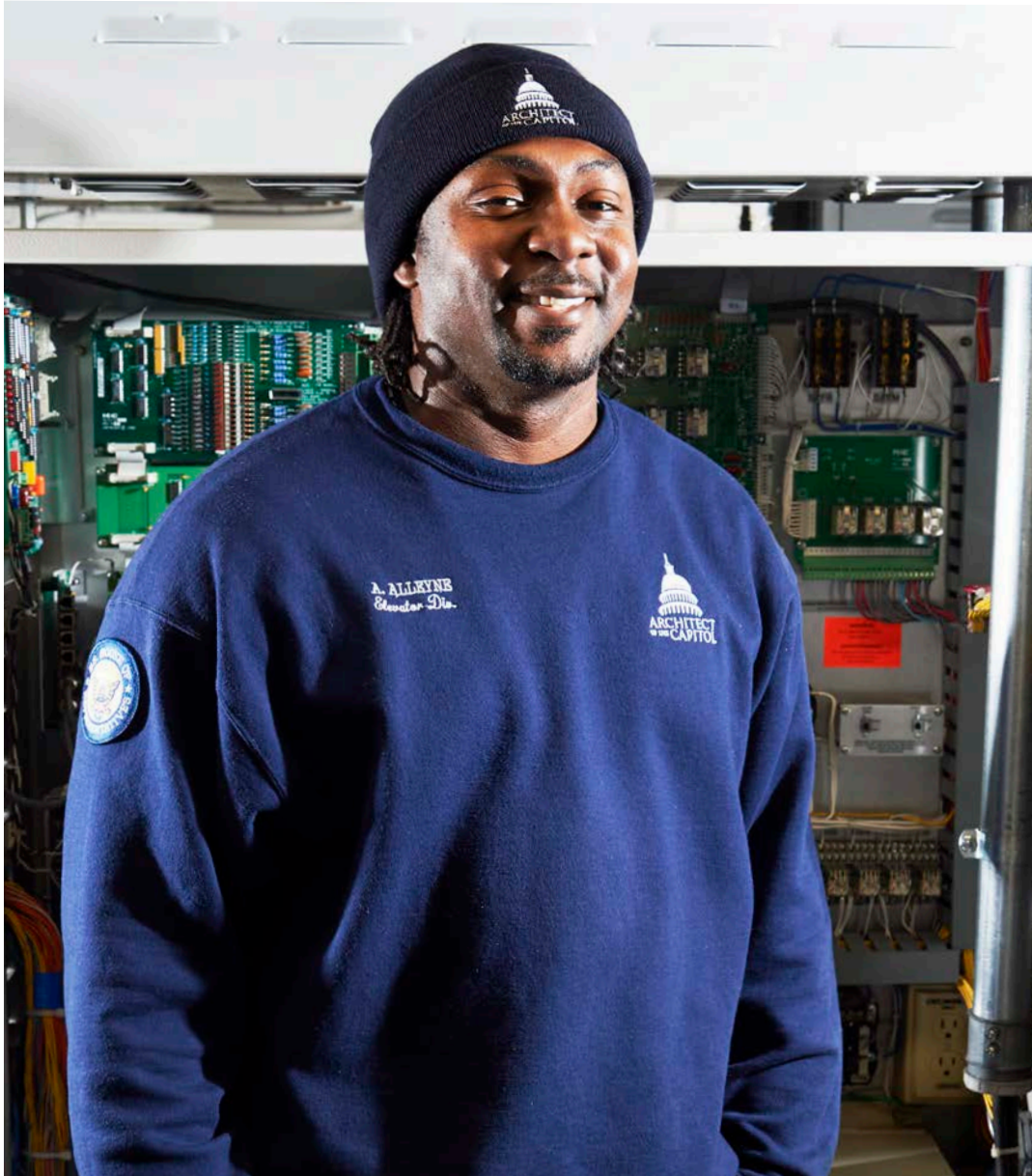
131.4

132.1

135.5



PREPARING FOR THE MOMENT **OPPORTUNITY KNOCKS**



WRITTEN BY ERIN NELSON | PHOTOS BY LUKE WALTER

AFTER 12 YEARS OF SERVICE WITH THE VIRGINIA ARMY NATIONAL GUARD AND TWO TOURS IN IRAQ, ANDERSON ALLEYNE BEGAN HIS CAREER WITH THE ARCHITECT OF THE CAPITOL (AOC) IN 2013. HE WAS HIRED AS A NIGHT SHIFT LABORER IN THE CAPITOL BUILDING JURISDICTION AND WAS RESPONSIBLE FOR MAINTAINING THE BUILDING'S SOUTH-SIDE FLOORS.

After a year in that position, he applied for a job in the House Office Buildings' Elevator Shop. Thanks to key preparations he made along the way, he got the job and has been promoted every year since then. This is his story — one he hopes inspires others in their professional journeys.

When Alleyne applied for the House elevator mechanic helper position, he met his future supervisor, Paul Miller. Miller has spent the majority of his 30+ year federal career with the AOC. He has been a champion of the AOC's creation of programs that help promote agency employees such as the Architect's Mobility Program, Student Loan Repayment Program and opening positions to in-house employees only. Miller is a huge proponent of hiring from within, "When we hire people from outside the agency, we are overlooking diamonds in the rough within the agency. You just have to find them. They are there."

And for Miller, those "diamonds in the rough" are the employees who have prepared in advance for their next opportunity. He explained, "I think employees sometimes wait for an opportunity instead of already being prepared for when the opportunity presents itself. No one came into the elevator trade knowing how to work on elevators, but if you have a strong work ethic, come to work willing to take instruction and attend training, you can succeed."

Fortunate for Alleyne, he had made those advanced preparations. He was one of several qualified candidates for the job, but for Miller, two things made him stand out — his electrical background and strong work ethic. Before beginning his career with the AOC, Alleyne earned a degree in electrical and electronic engineering technology at Virginia State University — a key step that helped prepare him for this job.



Alleyne uses a multimeter to diagnosis a problem with an elevator controller.

Alleyne was hired as an elevator mechanic helper and has taken full advantage of the career-ladder wage-grade position by participating in on-the-job training and taking agency-sponsored courses. Today, he is a full-fledged elevator mechanic and an inspiration to both Miller and his colleagues.

His success has been noticed, and naturally that garners some questions from others hoping to replicate it. His advice is simple, "Don't give up." Alleyne has seen many colleagues apply for a position once or twice, but then never apply again. He says it's all about timing, "You might not get it the first time, but you cannot give up. Some people keep applying, and they're always the ones that succeed. It's easy to get discouraged, but you have to keep trying."

WHAT MOTIVATES ALLEYNE TO KEEP LEARNING AND MOVING FORWARD? WITHOUT PAUSE, HE ANSWERED, **"MY FAMILY — MY THREE SONS AND MY WIFE."**

Alleyne's story is one of success, but he admits some days bring more challenges than others. He chooses to see them as educational opportunities, "You don't always have the answers to the problem. Sometimes you have to take a step back and see what you did wrong, see what you did right and try to resolve the problem. Sometimes you can't fix an issue on your own, and I'm not afraid to ask for help. I'm still learning. The day that I stop learning is the day that I stop progressing."

What motivates Alleyne to keep learning and moving forward? Without pause, he answered, "My family — my three sons and my wife. Some days are good days. Some days are bad days. But I put that key in the door, look upstairs and see my sons looking over the foyer and hear, 'Good morning, Dad!' That makes it all worth it."

His family focused mentality and time in the military offer some insight into why Alleyne's favorite part of his AOC job is the teamwork. Even though he works at night when fewer employees and people are around, there is still a sense of community. "I know we're all doing it for the same purpose. We're all one team, and it's nice to be a part of that team," he said.

Indeed. A sense of teamwork helps remind us all of our common mission — to serve, preserve and inspire. Miller believes that mission becomes even more achievable when we provide opportunities to those who are already living it every day. He credits the AOC's leadership with sharing that vision from the top down, but also notes supervisors like him have an important role to play as they sit on interview panels and make hiring selections. He has been encouraged by how far the AOC has come, "The agency has come a long way in ensuring the room for growth is there for our own. When we make the investment in our employees, we all reap the rewards."

Miller is also grateful that he's had the support of his supervisor — House Office Buildings Assistant Superintendent Dan Murphy. "Dan has made sure that we have the support and resources we need to do the best job we can while providing our employees with those growth opportunities whenever possible," Miller shared.

As the person responsible for coordinating the operation, maintenance, repair and replacement of the House's mechanical and electrical systems and equipment, Murphy is acutely aware of the unique skills required

**A SENSE OF TEAMWORK HELPS REMIND US ALL OF OUR
COMMON MISSION — TO SERVE, PRESERVE AND INSPIRE.**

to care for the historical materials and equipment that encompass the Capitol campus. Often those unique skills are not readily available from an outside workforce, which is why it is so important for the AOC to develop its own employees. Murphy believes every employee is a valued

member of the AOC team, "Everyone is a master at something. You just need to find it. Each of our employees brings something special and different to the AOC. Everyone has something to teach and something to learn. We must all be open to learning and available to teach."



Paul Miller (left) and Anderson Alleyne (right) are two AOC employees that embody its mission to serve, preserve and inspire.

EVERYONE HAS
SOMETHING TO TEACH
AND SOMETHING
TO LEARN.

**WE MUST ALL BE OPEN
TO LEARNING AND
AVAILABLE TO TEACH.**

CAPITOL MATERIALS CART

Written by Erin Courtney | Photos by Chuck Badal

The United States Capitol doesn't just rely on its impressive architecture and symbolism. It is an active campus bustling with excitement and the business of the people of the United States. In recent years, the Architect of the Capitol (AOC) has added first-rate, museum-quality attractions and tours, spaces to promote and assist the work of Congress, and experiences to inspire current and future generations.

In the fall of 2018, the AOC hosted its first ever Capitol Hill Day to showcase the talents of its employees and encourage our neighbors to do so too. Capitol Visitor Center (CVC) education specialists facilitated hands-on activities and assisted with demonstrations that appealed to

visitors and Capitol Hill neighbors of all ages. Members of our trade teams showcased their expertise in electrical systems, masonry, sheet metal, woodcrafting and painting. The Capitol Grounds and Arboretum team highlighted the Olmsted Plan and the gorgeous features of the grounds, from living trees and plants to historic fountains and walls. The United States Botanic Garden team encouraged visitors to participate in a wide variety of activities. Attendees also got a sneak peek at one of the agency's largest construction projects, the Cannon Renewal.

Capitol Hill Day was a success. Adult, Family and Youth Program Coordinator Thuvia Martin

noticed the public's keen interest in the trade tables and wanted to build on its success. Martin reached out to the Capitol Building jurisdiction to request sample materials and to get background information that could be shared with the visitor services staff.

"During the Dome Restoration, an old piece of the Dome was always popular with visitors. On Capitol Hill Day, the trade displays were popular as well. We really



One of the trade trays used on the Capitol Materials cart.



Kenneth Armstrong, a member of the Capitol Building's Sheet Metal Shop, examines a piece of metal.



Visitors to the U.S. Capitol Building interact with guides using the Capitol Materials cart.



wanted to capture what folks connected with," said Martin.

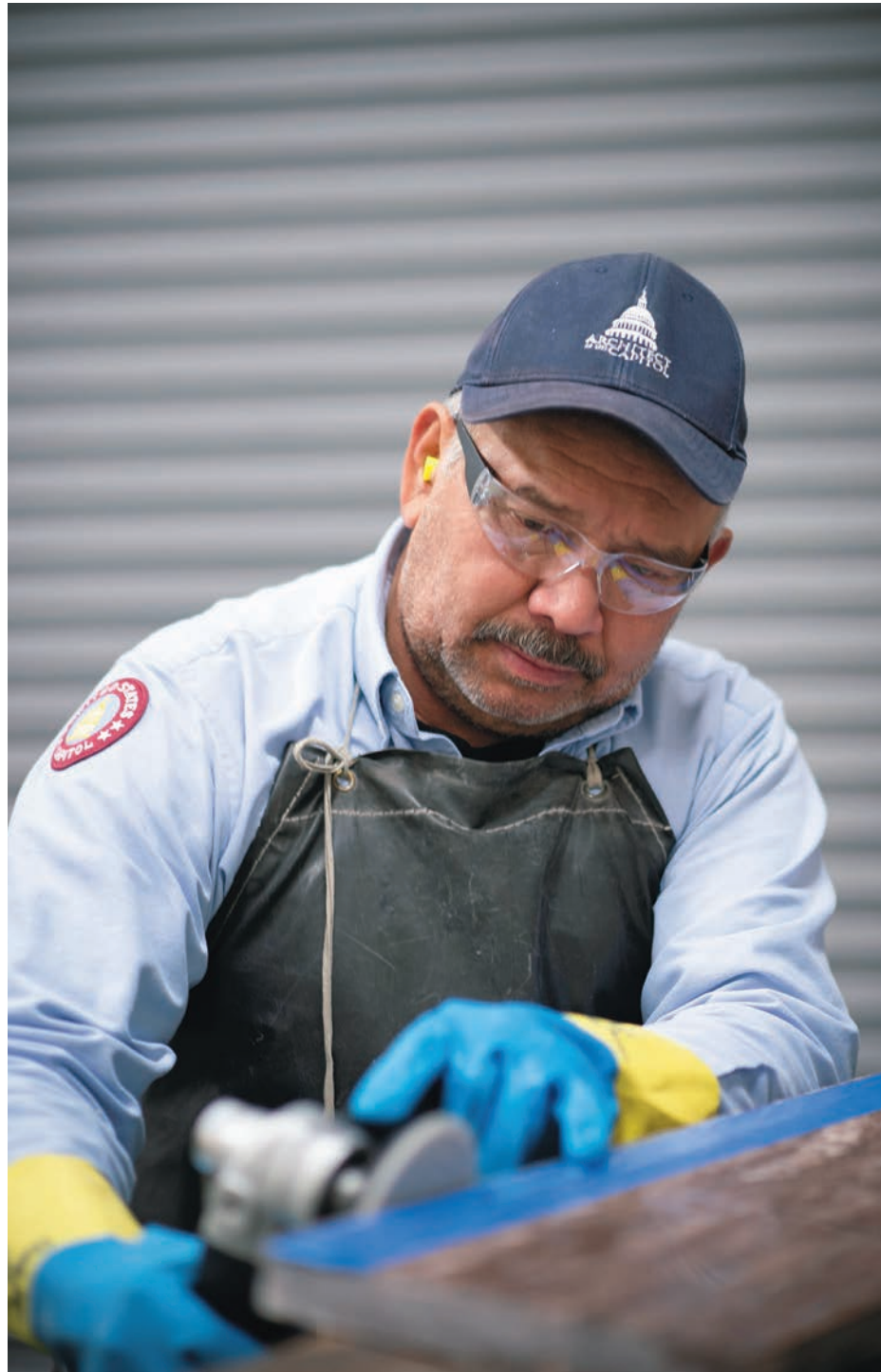
The Capitol Building jurisdiction brainstormed and came up with easy-to-use trays for the CVC's educational carts. The trays allow visitors to see and touch elements of the building often out of reach or hidden to an untrained eye.

"The job of the shops is to do work where you can't see it. Their goal is to create in such a way that the work is not noticed. This project helps

bring to light the amazing talents of members of our team that are vitally important but often hidden from the public," said Historic Preservation Analyst Benjamin Roberts.

Launched on February 1, 2019, the new Capitol Materials Cart Program showcases a variety of Capitol trades, including masonry, sheet metal, paint and wood-crafting. "This collaboration was near and dear to all of our hearts. It is special and gratifying that the tour guides will be showcasing the full story of the AOC and the U.S. Capitol Building," said Deputy Superintendent of the Capitol Building Kristy Long. Each tray was designed and built by the AOC team using items already available in their shops. Visitors can now see — and in many instances touch — plaster ornament casts, gavels, molding, copper roof seams, varieties of stone, brick and tiles, cast iron, as well as the gilding and faux painting processes. Each piece is held on the tray with heavy-duty magnets to permit guides to reorganize trays as needed and to allow visitors to hold the items. It is a feature that helps guides educate visitors on weights, textures and historic tradecraft processes.

"This was a wonderful collaboration and a great learning experience about how we all fit together. The trays are so much more than I could have ever hoped for. They look spectacular," said Martin.



Capitol Building Mason Shop employee Wilfredo Jovel-Reyes polishes a section of marble.

SENATE OFFICE

MOVES

Every two years, the Senate Office Buildings jurisdiction takes on one of its biggest responsibilities, the Senate election-year office moves.

Written by Elizabeth Yoder
Photos by Thomas Hatzenbuhler



(left to right) Senate Move Coordinator Bonnie Holod, who is also the supervisory architect in the Senate Office Buildings jurisdiction, works with Michael Gass and Paul Bosch, wood crafters with the Senate Wood Crafting Branch, to hang artwork in a senator's office.

The jurisdiction, in partnership with the Senate Committee on Rules and Administration and the Senate Sergeant at Arms, works diligently behind the scenes to renovate office suites for senators and committees of each new Congress.

The Superintendent of the Senate Office Buildings, Takis Tzamaras, describes the Senate moves as “our opportunity to make a great first impression on new members, strengthen our relationships with existing members and create contemporary office spaces which carefully preserve the historic fabric of the Senate buildings.”

During the election-year moves, the Senate jurisdiction demonstrates that it is truly a trusted partner of Congress — providing exceptional design, planning, execution and craftsmanship while working under tight deadlines to meet the needs of the Senate community.

Throughout the moves process, the Senate jurisdiction follows a comprehensive quality system procedure focused on safety and high client satisfaction, as well as excellent communication, timely drawings, accurate scope of work, and quality construction for each and every Senate move.

SELECTING THE SUITE

Office suites in each of the three Senate buildings vary in style, from the Russell Building's historic fireplaces and soaring 20' windows to the Hart Building's contemporary two-story offices with modular furniture.

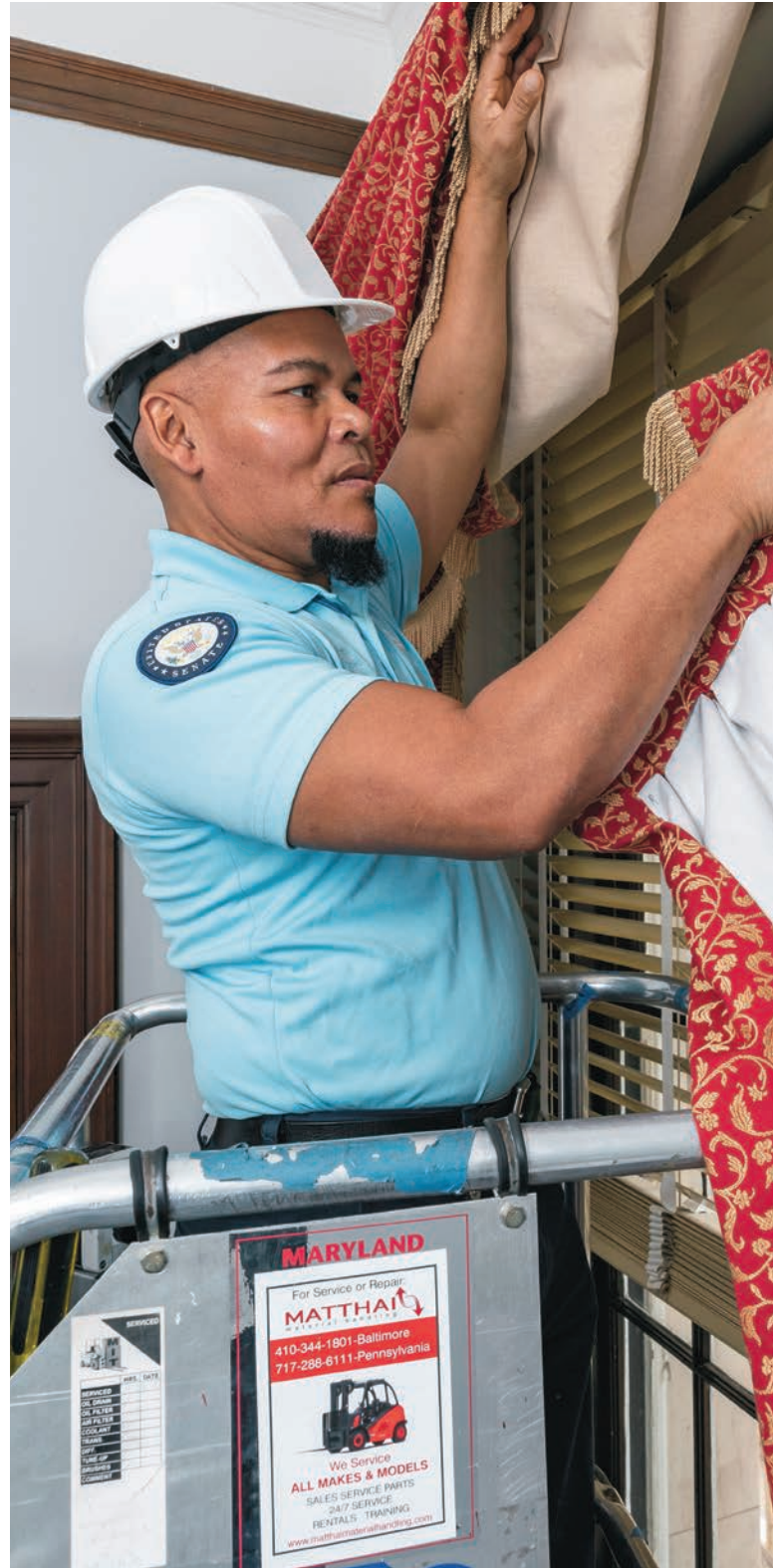
After the fall election in even-numbered years, senators have the opportunity to relocate their staff and operations to the office suites of outgoing members. The selection process is determined by seniority, with senators assigned a four-hour time window to select a new suite, if they desire.

Senators and staff use the Architect of the Capitol's online selection tool, Senate Suites, to learn more about available suites and select their new offices. Senate Suites is an online program developed through tremendous collaboration between the Senate Committee on Rules and Administration, the Senate Superintendent's Office, the AOC Information Technology Division, and the AOC Photography Branch. The application, which is similar to online real estate property search engines, allows users to search for preferred suite attributes, mark and track favorites, take 360-degree virtual tours, schedule suite walk-throughs, and officially select a new suite.

DESIGNING THE SPACE

Once a suite has been selected, the Senate Superintendent's Office assigns a Senate move coordinator to act as the single point of contact for the senator's office and facilitate all aspects of the move.

Senate safety specialists review hazmat documentation and perform a detailed site survey to incorporate important safety features into the construction drawings and work site so that everyone involved with the project understands potential safety concerns.



An AOC designer works with the senator and staff to plan the layout of the new suite within a one-week timeframe. Based on eligibility requirements, the office may choose paint, carpet, window treatments and furniture from the Senate jurisdiction's inventory for the new space.

Once the senator has approved the plan, the Senate move coordinator distributes detailed construction drawings to the various trade shops which will renovate the suite. Drawings are also provided to the Senate Sergeant at Arms for installation of IT and telecom equipment.



(Top) Tim Steadman, a painter with the Senate Painting Branch, prepares office walls in the Dirksen Building for new paint.

(Left) Luis Aquino, an upholsterer with the Senate Upholstery Branch, hangs draperies on a large office window in the Russell Building.



Lowell McCain, Jr., of the Senate Upholstery Branch, works on a historic chair in the Senate upholstery shop.

RENOVATING THE SUITE

The Senate Superintendent’s Office determines the renovation schedule based on efficiency and the complexity of the project, which typically includes necessary deferred maintenance work, important infrastructure upgrades, and possible abatement of asbestos and/or lead hazards from the area, with the AOC Construction Division assisting the jurisdiction on larger abatement projects.

Senate jurisdiction staff also use the opportunity to correct any Americans with Disabilities Act (ADA) accessibility issues and Office of Congressional Workplace Rights findings; perform needed plaster repairs, HVAC maintenance and plumbing upgrades; and install sprinklers and other fire and life safety features, as needed, to bring the suite up-to-date with current building codes.

During the construction process, the senator continues to work from his or her former office or temporarily works from a new member suite which is accessible immediately after the election and accommodates the new senator and up to 15 staff.



Senate Move Coordinator Alyssa Perron, who is also the energy engineer in the Senate buildings, discusses the suite’s furniture layout with Jerry Coats, material handler leader with the Senate Furniture Branch.

During the suite renovation process, numerous Senate trade shops closely collaborate to build partition walls to better serve the needs of office staff; repaint the space, often using striping and other decorative painting techniques; install energy-efficient lighting and new carpeting; hang coordinating blinds and custom draperies, particularly for the large windows in the Russell Building; and craft woodworking projects and custom millwork for specific parts of the space.

Once construction is complete, the Senate Day Labor, Night Custodial and Floor Care Sections thoroughly clean the suite in preparation for the move.

COMPLETING THE MOVE

The move itself takes less than 12 hours and begins just after midnight. The Senate Furniture Branch moves in the larger furniture items first; then, as light dawns, material handlers transport packed moving boxes from the former Senate office to the new space.

By 1 p.m. that afternoon, the move is complete, the office is fully functional, and the senator and his or her staff can resume their work in the new suite.

Once the move is complete, the Senate move coordinator transfers the office to the care of the Senate Service Center — which serves the Senate community 24 hours a day, seven days a week — and a Senate building inspector assigned to assist the Senate office with any office-related needs.

The Senate Superintendent's Office is dedicated to sustainability throughout the Senate moves, with the goal of reducing, reusing and recycling 90 percent of construction and demolition debris each year. The Senate jurisdiction also

maintains a Recycle and Reuse Center to enable Senate offices to donate unneeded office supplies, maximize Senate resources and minimize unnecessary waste.

According to the Assistant Superintendent for Tenant Services, Paul Kirkpatrick, "The Senate office moves involve tremendous collaboration between the Senate trade shops, other AOC divisions, and Senate committees and support offices. They truly show the AOC working as one team, one mission to create awe-inspiring facilities, deliver extraordinary service and preserve the priceless buildings entrusted to our care."



Brady Fleming, electrician leader with the Senate Electrical Branch, stands on a lift to adjust large lights in the Russell Building.



Communications and Congressional Relations
U.S. Capitol, Room SB-16
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The Architect of the Capitol strives to meet its mission 24 hours a day, 365 days a year to **serve** Congress and the Supreme Court, **preserve** America's Capitol, and **inspire** memorable experiences for all who visit the buildings and grounds.

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Dome construction from the East Front showing the original Rotunda sandstone walls under the Dome columns.

Photo courtesy of AOC Photo Branch Archives

