



Fallen Angels

with sudden shocks, the need for restoration

BY M. LEIGH HARRISON

If you could visit Washington National Cathedral today, you might not recognize it: a tall chain-link perimeter fence completely encircles the Cathedral. It enforces a wide berth from the nation's spiritual home, blocking access to South Road, the Bishop's Garden, and the main entrances to many of the secondary buildings on the Cathedral Close. Large assemblies of steel scaffolding with steep-sided wooden roofs—covered walkways—snake awkwardly across Walker Court and up from Woodley Road to the administrative wing, where doors are locked. Giant steel beams laid flat at right angles to each other jut out from the top of the Gloria in Excelsis tower, like an abstract crown of thorns.

These expensive but necessary precautions temporarily mar the beauty of this national landmark:

the nation's Cathedral is recovering from an earthquake.

HOW IT HAPPENED

August 23, 2011, was a normal, if busy, summer afternoon on the Close. Visitors were touring the nave, exploring chapels in the crypt, and surveying the city beyond Olmsted Woods from the Pilgrim Observation Gallery. The noon Eucharist had finished, and intercessory prayers were the next scheduled worship activity. After more than a year of planning, Cathedral staff were putting the final details in place for A Call to Compassion: three days of programs to commemorate the tenth anniversary of September 11, 2001. A meeting was taking place in offices located in the southwest tower. Cathedral stonemasons were repointing steps at the west front. Tourists snapped

ABOVE THE UPPER THIRD OF THE NORTHEAST GRAND PINNACLE, CENTRAL TOWER, WAS SHAKEN APART IN THE QUAKE; ITS FINIAL FELL TO THE ROOF
RIGHT DAMAGE TO THE FOUR GRAND PINNACLES, CENTRAL TOWER;
PHOTOS C.A.SEFERLIS



photos from an open-topped tour bus circling the grounds, and more buses and cars were arriving to park at the Cathedral's below-ground parking lot.

At approximately 2 pm, a rolling tremor began as a shallow and widespread magnitude 5.8 earthquake struck the east coast of the U.S.

The quake's epicenter was located closest to Mineral, Va. (pop. 424), a once-promising mining town named after its location on the so-called Gold-Pyrite Belt that stretches between Buckingham County and Fairfax County. Buildings were evacuated across the capital region, and cell phone signals were jammed for hours, but most Washingtonians experienced no more inconvenience than that. A number of landmarks, however, sustained significant damage—notably Union Station, the Washington Monument, and the National Cathedral.

The shaking was over in less than a minute. Those on site tell tales ranging from the mundane to the extreme, depending on where they were at the time.

IMMEDIATE REACTIONS

Staff in the nave and lower level gift shop worked to clear visitors. Administration building staff gathered on North Road and tried to determine if their eyes were playing tricks on them or if the central tower

was really swaying. Horticulturist Deanne Eversmeyer, working at the amphitheatre on the south side, was one person who heard clanging as the tower bells began to ring themselves: later investigations revealed that a number of cables in the carillon had snapped. Staff meeting in the southwest tower rushed down ten flights of stairs that moved under their feet as they attempted to exit the building, and visitors to the crypt reported that the floor there started to roll. Amazingly, no injuries were sustained during the earthquake or the evacuations.

With media arriving on the scene, Cathedral Dean Samuel T. Lloyd III and other senior leadership, including Bishop of Washington John Bryson Chane and Canon Kathleen A. Cox, began to survey the perimeter of the building to get a sense of what had occurred. What they saw was incredible from the ground, but no one expected what would be revealed close-up.

The earthquake was most destructive highest in the Cathedral, and the pinnacles of the central tower felt its force most strongly: some of these huge pieces of stonework literally rotated, while others were shaken apart. Flying buttresses around the apse at the historic east end of the Cathedral (the tall, freestand-

ing ones) suffered cracks where their “flying” arms met uprights attached to the building. Pieces of stone, large and small, littered the ground: one intermediate pinnacle’s finial-top (known colloquially as a “pineapple”) fell more than a hundred feet to embed itself into the ground near Walker Court. Many more pieces of stone landed on the roof, which in a few places was perforated with large holes from falling stone. The nave floor was coated with mortar chips and dust that had showered down from the Cathedral’s vaulted ceiling.

STABILIZATION WORK BEGINS

Although the earthquake took place in balmy weather, conditions were about to take a turn for the worse. Hurricane Irene had strengthened and was on a path to strike heavily populated areas on the east coast. And not only the roof needed patching before the storm would strike.

At a press conference held at 2 pm on Thursday, August 24, Mason Foreman Joe Alonso joined a team of architects and structural engineers to explain the results of preliminary visual assessments. Dean Lloyd announced at that time that the Cathedral building would remain closed to the public through at least Saturday, August 27, when a much-anticipated worship service to dedicate the Martin Luther King, Jr. National Memorial had been scheduled to take place at the Cathedral. (The Basilica of the National Shrine of the Immaculate Conception, in Northeast D.C. on the campus of Catholic University of America, graciously allowed the Cathedral staff and service participants to conduct the service there instead; Washington Hebrew Congregation hosted the Cathedral’s Sunday worship for the next three Sundays.)

Dean Lloyd closed the press conference with his vision for the path ahead. “The Cathedral building represents the grandeur and beauty of faith—its importance to American life and indeed to human life,” he said. “But yesterday’s earthquake reminds us that no finite building is God. We will move forward with our faith unshaken, and we will repair the building. Help from the countless Americans who helped build the Cathedral in the first place will make it whole again,” he predicted, referring to a multi-decade building effort led by the National Cathedral



National Cathedral Association Angels

An outpouring of support from the **National Cathedral Association (NCA)** across the country has come in to begin fundraising efforts on behalf of the Cathedral. A leading example is underway in California where **Susan Stone Hayes**, a long-time Cathedral supporter and NCA regional volunteer leader, has launched “an effort to encourage Californians to actively participate in helping fund the massive repairs that will be required for the Cathedral.” Hayes has committed to matching up to \$50,000 of every gift made originating in California toward the Cathedral’s restoration.

Hayes said that she was most inspired by supporters who have been acting as “angels” for more than a century to realize the idea of a National Cathedral in Washington, D.C. “Now, however,” she continued, “the Cathedral, while still structurally sound and ready to again take up its mission and ministry, will require a huge amount of time and money to address the damage resulting from the earthquake.”



Association (NCA) that began in the 1890s.

Tracking to the east, Hurricane Irene knocked a few stones from the exterior but confined most of its limited damage to the grounds, where it blew down some trees. No people were injured, thanks in part to quick adoption of engineers' safety recommendations. These included the placement of the chain-link perimeter fence and the construction of covered walkways still visible on the Close.

The Cathedral's recent strategic planning and visioning process had encouraged efforts toward restoration and preservation well before the quake. The forethought was appreciated on August 29, when Cathedral friends had a chance to hear about these efforts first-hand from a knowledgeable "insider" perspective at the Cathedral's first-ever Preservation Webinar. The live online video symposium featured Mason Foreman Joe Alonso along with Andrew J. Hullinger, senior director for finance and administration, who oversees the Cathedral's budget, preservation, and maintenance.

Precautions underway at the time included the hanging of large industrial nets on the inside of the nave at the clerestory level. A careful inch-by-inch inspection of the vaulted nave ceiling then took place with the aid of bright lights and tall rolling towers of scaffolding. It revealed that the structure had not been compromised, fortunately, even though a large amount of mortar and dust had shaken down to the floor when the earthquake struck. The industrial nets are intended to catch any falling debris before it hits the floor of the area. The interior netting effort would be matched by a larger-scale effort on the exterior to catch any debris or even stones that might fall from

the damaged central tower as assessments continued and stabilization work began. A crane would be brought in to hang large sheets of industrial netting from the tower for this purpose.

AN UNEXPECTED COMPLICATION

On a rainy Wednesday, September 7, the enormous crane that was being used to secure the damaged pinnacles on the central tower suddenly collapsed with a thunderous noise. Several cars parked on South Road were crushed, the air blown out of their tires by the force of the falling several-ton machine. The roof of the historic Herb Cottage, one of the earliest buildings on the Close, was clipped on one of its eight sides; a long-standing fig tree was destroyed in front of the building, originally built to house the baptistry and long ago made into a gift shop operated by All Hallows Guild. The crane also knocked large blocks out of the original stone wall and "Norman Arch" leading into the Bishop's Garden, where several heritage plantings were also harmed by the collapse. A pulley component weighing some 1.5 tons landed in the garden's goldfish pond. Miraculously, however, the crane's path along South Road entirely avoided the Cathedral and the diocesan office building.

The crane operator remained in the cab of the crane after it fell; his minor injuries, sustained during a dramatic evacuation of the vehicle, were fortunately the only ones reported. Government officials began analyzing the scene for insights into the cause of the collapse, required by law, within hours. Nevertheless, the timing of the event made it impossible to hold any events for A Call to Compassion that weekend at the Cathedral. Staff immediately began researching alternative venues.



The stabilization and safe removal of the crane proved to be a very delicate endeavor, precisely because it landed in such a narrow path between the Cathedral building and other structures. Teams of engineers immediately began planning how to remove it safely without upsetting its balance and doing further harm. The resulting plan, a very carefully developed and choreographed series of steps, would stabilize the upended truck at the base of the crane: the counter-weights and remaining sections of crane's framework neck (the "latticed boom"), along with components associated with the support and operation of the upper portion that lifts and moves heavy objects (its "luffing jib"), could then be removed. At that point, the truck standing three stories aloft on its rear wheels could be lowered safely back onto its tires and then be taken away from South Road.

Temporary shoring and stabilization of the ground near the projected location of other necessary removal equipment (three additional smaller cranes) began Saturday, September 10. Crane Services, Inc. and KCE Structural Engineers directed the operation, with the assistance of Grubb Ellis and Miller & Long. The actual positioning of the additional cranes and related equipment began Monday, September 12. A walk-through "rehearsal" of the removal process then took place Friday, September 16, followed by the start

of the successful crane recovery process by Monday, September 19. A larger red crane has now begun work near where the collapsed yellow crane once stood.

REOPENING THE CATHEDRAL

Ultimately, weeks were required to remove the damaged crane safely and to conclude assessments for official investigations after its disastrous September 7 collapse. Now, with the fallen crane finally removed from the grounds, work begins again to stabilize the building's towers. The Cathedral remains closed, following the advice of engineers. Plans are underway even so for Saturday, November 12, when the Cathedral intends to host the consecration of the Rev. Dr. Mariann Edgar Budde as ninth bishop of the Episcopal Diocese of Washington. Festivities surrounding the reopening of the Cathedral will probably take place at that time, barring unforeseen complications.

As the Cathedral prepares to reopen, the work of stabilization must continue—despite mounting costs that are already quite steep. The steel beams that currently rest atop the central tower, 70 tons in total weight, will hold up industrial netting to catch stones and debris as planned, and support the work of hoisting the massive stones. Further scaffolding atop the central tower will allow workers to access and safely remove all four damaged grand pinnacles. The com-



Healing Begins

MESSAGE FROM CANON KATHLEEN COX, EXECUTIVE DIRECTOR AND CHIEF OPERATING OFFICER

Even as it faced a range of peculiar challenges, the National Cathedral's staff has held together to carry out an extraordinary mission. I have been truly amazed at how many moving pieces they have managed with grace, dedication, and humor. No one would ever welcome an earthquake or a crane collapse, but I am thankful for the can-do spirit they have revealed. And I know that the Cathedral is blessed to have a comprehensive strategic plan for the next three years.

No one could have predicted the earthquake that did so much damage to this beloved landmark and national treasure, and no one could have predicted the crane collapse that would alter so many plans for its most important events. But the Cathedral is fortunate and in fact blessed to have successfully drafted a comprehensive strategic plan for the next three years, well before these disasters struck, and to have a dedicated staff capable of carrying it out.

The National Cathedral is called to be the spiritual home for the nation. It seeks to be a catalyst for spiritual harmony in our nation, renewal in the churches, reconciliation among the faiths, and compassion in our world. This mission and vision have already guided us through A Call to Compassion—the enormously powerful tenth-anniversary commemorations for the 9/11 attacks—and they will continue to direct our steps. We will seek to offer a rich variety of worship events, music, and discussion to the nation and the world as our restoration work goes on.

Our strategic planning process revealed the need to build the Cathedral's endowment, in effect to lay deep foundations for new structures of financial support. The expenses related to one sudden quake alone show why this must continue to be a goal. At times of great hardship to others, the National Cathedral must have the strength to offer its ministry even more powerfully. That ministry begins with the building, but it continues with the life that building contains.

We know clearly what we must do to remain a healing and awe-inspiring presence in our world. We know our calling and the legacy entrusted by so many to this sacred place. Your prayers, participation, and offers of financial support made our work of planning possible. We will continue to rely on your active support as this generation answers its call to build.

ABOVE INSTALLING PROTECTIVE NETTING IN THE NAVE TO CATCH ANY STRAY MORTAR OR STONE DUST

LEFT CRACKS, SPALLING, AND STONE SEPARATION

PHOTOS WASHINGTON POST



pany building the scaffolding, UBS (Universal Builders Supply), has a long record of work with significant structures including the Washington Monument, the Mormon Temple in D.C., the Jefferson Memorial, the Statue of Liberty, and the Basilica of the National Shrine of the Immaculate Conception; in addition to current work on the Cathedral, it will also install the scaffolding at Union Station to inspect the earthquake damage there.

As it concludes stabilization work on the central tower, the crane will move on to facilitate a close professional inspection of the Sts. Peter and Paul towers on the west front. The firm of Wiss, Janney, Elstner Associates, Inc., will bring its “Difficult Access Team” of architects and engineers to the Cathedral from the Washington Monument to perform a thorough “rappelling inspection” of the west façade. Fences will then be moved closer in before they are entirely taken away.

As the pages of this issue show, the Cathedral’s damaged elements are not only beautiful exterior ornamentation but also, simultaneously, structurally important and crucial for the building’s continued longevity. The 150,000-ton Cathedral building itself was constructed with hand-crafted Indiana limestone. As inspectors conclude their task of checking the integrity and stability of each element—every crocket,

A Close Community

A generous gift of \$100,000 from the three Cathedral Close schools—**Beauvoir**, **National Cathedral School (ncs)**, and **St. Albans School**—was made in response to the earthquake damage. The Cathedral learned of the gift, “made on behalf of the students, parents, alumni, faculty, and staff of the three schools, who are privileged to be part of the Cathedral community,” in a letter from Paula Carreiro, head of Beauvoir; Kathleen O’Neill Jamieson, head of ncs; and Vance Wilson, head of St. Albans.

Other smaller-scale efforts made by students themselves include a loose change challenge at the ncs Upper School in which students will collect donations in sets of buckets for one week with grade pairings competing with each other to raise the most money toward restoration. At St. Albans, the Student Council approved a large portion of proceeds from a fall dance to be donated to the Cathedral’s restoration effort. At its Upper School, students will purchase “tags” to wear, granting them leave to dress out of uniform on a designated “Tag Day.” The funds raised will go to the Cathedral. Additionally, even a sibling pair of Beauvoir students in pre-K and second grade classes sent a donation from proceeds of their summer lemonade stand.

Alumni of both ncs and St. Albans who are members of a D.C.-area rock band held a fundraiser for the Cathedral to support the Cathedral’s restoration. The event raised nearly \$1,000, and an additional concert is already scheduled. Many more efforts are underway, reflecting the unity of the Cathedral Close in support of its inspiring edifice.

ABOVE A 500-TON CRANE COLLAPSED WHILE DOING STABILIZATION WORK, DAMAGING THE HERB COTTAGE, SOUTH ROAD, AND THE BISHOP’S GARDEN
PHOTO C. STAPERT

finial, gargoyle, angel, pineapple, and grotesque—the work of stabilization will have to continue. Where current stonework can be salvaged, Mason Foreman Joe Alonso has indicated that Cathedral stonemasons will do everything in their power to continue using the original artisans’ work. But where new stonework must be created, the process for doing so will be time-consuming and complex.

Molds must be shaped, patterns cut—and stones ordered, quarried, and transported—all before carving can even begin.

RESTORATION BEGINS HERE

Standing on the capital’s most awe-inspiring height, with its unique take on the time-tested perpendicular Gothic style, the National Cathedral has long proven itself to be one of America’s best-loved and most meaningful buildings. Views of and from its towers, the changing beauty of its grounds, and the history chronicled in its quiet chapels and nave make it a place that restores the soul. Now this national treasure needs your help.

The Cathedral has long served as a place of renewal in spiritual and public life. From diplomacy to donation, restoration begins here, so restoration of the building that makes them possible must begin today. The first phase of the effort, including stabilization, is projected to cost at least \$25 million. This work includes at least \$2 million for stabilization, another \$12 million for early restoration efforts, and at least \$10 million more to replenish and maintain necessary program and operating expenses through the end of the fiscal year (June 30). Meeting this preliminary goal will enable the Cathedral to focus on other identified short-term and long-range preservation needs of at least \$100 million more.

Just as the Cathedral was built stone by stone, paid for by supporters across the country over many decades, so it must be rebuilt. Just as all its parts rely on each other to move rainwater and carry weight, so the Cathedral’s communities of support will need to work in concert to make this effort succeed. Few friends have the talent or training to re-carve gargoyles and to return angels to the tops of the towers from which they fell—but everyone can give.

Collectively, all this work will restore the spiritual home for the nation. *CA*



A Passion for Stone and the Sacred

Mason Foreman Joe Alonso has been in charge of the stone mason team since 1990, and has worked as a mason at the Cathedral since 1985. Since the earthquake, he has been in demand both on-site and nationally as an expert in his little-known field.

“It’s heartbreaking to me, because I know what went into building this building. I look at a piece of stone, I can tell you what that stone went through, from design through carving and being laid in place by the stonemason,” Alonso says. “This is a handmade building.

“The day of the earthquake, I was working with my colleague Andy Uhl on the granite steps of the center portal of the west front. We were planning to move up to a scaffold on the north side of the nave, but I wanted to finish the work on the steps first.

“Had we been on the scaffold that day, we would have been seriously injured or worse. The top deck of that scaffold was littered with fist-sized chunks of limestone that had fallen nearly 200 feet from the central tower’s pinnacles.”

Perhaps very few people alive today—if any—are as intimately familiar with the Cathedral’s architecture and details as Alonso. He and his team face a challenging restoration process but will work with strength and a committed passion for the Cathedral and all it stands for as a sacred setting.