



The challenges of
bringing home a piece
of the Garden State's
industrial heritage.

EDISON'S LABORATORY BUILDING #11

by Ken Follett

Thomas Edison (right) walking out of "Laboratory Building #11" in
the 1922 film, *A Day with Thomas A. Edison*.



12-448 / 457
 IMAGE: 19.5cm x 24.5cm
 DATE: 09/17/1948

LABORATORY BLDG. 11 BEING DISASSEMBLED FOR REMOVAL TO
 DEARBORN, MICHIGAN.
 PHOTOGRAPHER:
 PLACE: WEST ORANGE NJ
 NEG NO.: 6289

**Laboratory Building #11
 being deconstructed in
 1940 in preparation for
 being moved by Henry
 Ford to Greenfield Village
 in Dearborn, Michigan**

Automotive pioneer and industrialist Henry Ford idolized his friend, Thomas Edison—so much so that after Edison's death in 1931, Ford acquired and relocated the inventor's buildings from Menlo Park, New Jersey, to Ford's historic theme park, Greenfield Village in Dearborn, Michigan. In addition to buildings made famous from association with Edison's invention of the incandescent light bulb, in 1940 he also moved one wooden barn from Edison's relatively less well-known vast industrial complex, the remnants of which are now known as the Thomas Edison National Historical Park in West Orange, NJ. Originally constructed around 1898, "Laboratory Building 11," as the barn was labeled, originally sat across the courtyard from Edison's office. Ford had the barn dismantled piece-by-piece and moved to Michigan.

In 2002-2003 it was one of my construction projects, as an owner and Executive Vice-President of Apple Restoration & Waterproofing, Inc. of Brooklyn, NY, to move the barn from Michigan back to New Jersey and to reconstruct it to within



**Laboratory Building #11
in Greenfield Village
prior to its return home
to New Jersey.**

10-feet of where it had originally stood before 1940. At the time of our move the Henry Ford Museum had launched into a project to consolidate and restructure the layout and collection of their buildings at Greenfield Village. The barn, as it was an odd-one-out in relation to the Menlo Park buildings, was to be removed from the Greenfield Village collection.

Laboratory Building #11 was used for a variety of purposes, most notably as a small chemistry lab and it possibly played a role in developing most of the major products of the West Orange lab, including improved batteries, phonograph records, and motion picture film. Henry Ford's personal interest in the building may have been a belief that this space, not too many steps from Edison's office, represents the last building where his friend tinkered at inventing. This is understood where Edison worked on research to convert goldenrod to rubber, and talking dolls. Personally I imagine that as Edison aged the barn is where he went off to fuddle around alone and unobserved, or, more likely contrary to his robust legend, to take long naps.

About halfway through the short-short film *A Day with Thomas A. Edison* (General Electric Co.; producer, Bray Studios), available on the Internet at Library of Congress, American Memory, Edison Motion Pictures, shows Edison and another fellow walking out of Laboratory Building #11 into the courtyard.



David Follett marking pieces on the roof so they could be reassembled in the same places back in New Jersey.

The structure is a hybrid post-and-beam with balloon framing and a board and batten siding. The floor area is roughly 800 square feet with a large 30x20-foot ground floor room and a smaller 10x20-foot ground floor lean-to.

The building was offered to the National park Service, with the caveat, as it was explained to me, that if there were no taker for the structure it would be demolished. It also had to be moved within a very short window of time. The Edison Preservation Foundation of Newark, NJ, provided the funding for the move. The cost for the deconstruction, move, and reconstruction was \$630,000.00. Architect for the project was Tim Macy, then of Beyer Blinder Belle Architects.

My first notice of the project, a small portion of a \$90-million ongoing plan at the site, was when I was contacted and asked if I would be interested in moving an historic building. I had been involved in previous work at the site, working under the direction of structural engineers Robert Silman Associates to undertake exploratory excavations beneath the floor in the main laboratory building for the design of an elevator to make possible public access to the upper two floors of the building. Our friend, the architect Jim Rhodes, formerly of Beyer Blinder Belle, knew of my reputation for handling of odd projects and made recommendation to the project architect that they contact me.

There had been a contractor lined up for the move but for



Hubert Ellis working on deconstruction.

whatever reason they were not able to follow through. To me it seemed like a reasonable request that we move a building and I replied in the positive. I then received photographs of the building as it sat in Michigan and information in regard to what the previous contractor—who turned out to be a marine contractor from coastal Maine with amphibious landing craft and a portfolio of dock projects. My inquiry then to the architect was if their intent was that we lift up the building, set it on a barge, and move it via the Great Lakes, the Saint Lawrence Seaway and the Atlantic to New Jersey. Not totally impractical, though a bit heady. I had previously been involved in consulting on the move of a smaller private structure by helicopter airlift.

As it turned out there were no particular plans as to how the building was intended to be moved and it was left up to me to propose a plan and methodology. My proposal was to deconstruct the building piece-by-piece, as had been done in 1940, to move the pieces, and then to reconstruct the structure in New Jersey.

From there I went about to put together a dream-team of subcontractors that would be able to handle a multi-state



Carefully labeled, each part of the building was packed into a shipping container to be taken home to New Jersey.

project over a span of two years, and to assemble a cost proposal. The team had several components:

- On the Apple Restoration side, I was to handle the overall project management, contract negotiation, and administration. Employees of Apple were Deb Bledsoe from Ohio and Kentucky, designated as project coordinator to handle support and logistics; Sam McCoy (a descendant of the Hatfield & McCoy McCoys); Hubert Ellis as site supervisor; and my son David Follett.
- Christian & Son timber framers based in Burbank, Ohio with Rudy Christian, Laura Saeger and Carson Christian to handle the carpentry and documentation, relying on their work experience in Michigan and other out-of-area projects.
- Restoration Management Systems (now Quality Restoration Works) with Jim Hicks, would handle the windows, doors and laboratory benches.



The Dearborn Inn business card from 1940, found buried in the wall by someone involved with the move to Dearborn was also placed back into its spot during the 2003 return to NJ.

- Edge Development, with Drew Diaz, would take care of all site work at West Orange and provide a solid concrete foundation.

I mention and credit the formation of a dream-team here as the final success of the project was very much dependent on the experience, understanding, resources, and creative input of all individuals who worked together.

The plan, as it worked out, was that the building would be fully deconstructed with an on-site AutoCad recording of each labeled piece, that it would be packed into a shipping container, the container sent off to West Orange, New Jersey, and that it then be reconstructed.

For a short period at the beginning of the project The History Channel showed an interest as a potential segment of a Save America's Treasures series. That seemed to boil down to an independent film producer hanging around the project for a few weeks and treating the on-site team to a few dinners. However, they dropped the project one day, something about changing direction of their programming.

The project team for the most part took a museum-level of approach toward the historic structure. During the deconstruction there were a few things learned that were a contrast to our contemporary historic conservation approach. First off, early on we learned that though the barn we were taking apart was painted red, that historically it had always been painted gray. I was able to confirm this with my mother, who told me that my grandfather, a master-finish carpenter originally from Iowa, held a similar interest to Henry Ford's in 19th century industrial history—and automobiles—and had visited Greenfield Village where he recalled that the building was indeed then gray. I was informed that it had been painted a fresh red in order to make it appear less like just another run-



Reconstruction in New Jersey

down old barn and more attractive to the National Park Service.

What we also discovered was that Henry Ford tended to wander around the world, with his staff in tow, and when he found a building that met his fancy, he would point at it. His staff would go into motion, acquire the building, take it apart without much regard to authenticity or strict documentation, and have it moved off to Michigan, where it would then sit, without any particular activity until the resident architect was informed to figure out how to put the pile back together again.

Henry Ford also had a habit of coming out onto the theme-village site in the morning and asking his staff that the buildings be picked up and moved around. When we were active in the village, new concrete foundations were being planted and buildings moved around as if they were children's building blocks.

Likewise we learned that, where in the usual line of carpentry two or three nails in the end of a stud would do just



Reconstruction

fine, the studs on this building looked like they had been attacked by rabid porcupines. De-nailing became an unexpected and major portion of the work activity. We attribute this to an understanding that the carpenters who put the barn together in Michigan were the senior, as in 'elderly' carpenters who had worked in the auto plants, keeping the assembly line going, and as I surmise, their careers were solidified by nailing the crap out of anything that they did not want too easily to move. Just as nowadays we would use duct tape. For a



**The final reconstruction
of Laboratory Building
#11 back home at last
after 71 years**

tradesperson the historic hand of the traditional trades is always revealed in the work.

We also learned that there was a bit of disconnect in the 1940 reconstruction as portions of framing on the shed were evidently mixed in with framing on the main structure. This became something of an internal struggle for the dream-team as it was difficult to settle on if we were to recreate an authenticity of the 19th century or the 20th century construction. In the end we compromised by necessity.

Portions of the structure were not particularly considered historic, or important to the planned future use of the building and were discarded. This included interior finishes (a sort of homosote board), the masonry chimney, the shingle roof, and the masonry foundation.

Buried in the wall and nailed to a stud we found a 1940s plastic business-card calendar from The Dearborn Inn. During the reassembly process the card was returned to its location, buried in the wall along with an updated record of the 2003 project team.

Carefully deconstructed and all of the pieces labeled, they



Thomas Edison (left) with Henry Ford during one of their camping trips.

were stacked into a shipping container that the team had rigged up with storage racks. Over the years we had been asked to look at a number of historic wooden structures that had inexpensively been deconstructed then piled into a container and subsequently the wood sat wet, food for bugs and worms, and slowly and invisibly rotted away. It was one of our goals not to let this happen with this barn. The box was packed in such a manner not only that the climate could be controlled, but that the pieces would come back out of the box in a logical order for reconstruction.

I will digress here briefly to discuss a few contractual matters. As the project was funded by a private foundation it was private money and not subject to the sort of hurdles that a contractor would need to go through if working on a Federal Government project. The barn was a donation to the National Park Service, in short, it, and the relocation, were a free gift to the citizens of the United States. As not being subject to government rules it was chosen to not go the route of a fairly standard American Institute of Architects (AIA) contract, but to hire out to one of the larger legal firms in NJ to craft a custom contract. From a contractor's viewpoint this was dangerous territory as there was no need for a custom contract outside of customary industry practice. It was only balanced by that we had our own lawyer as a team member who throughout the project reviewed and assisted us in the contractual negotiations and administration.

The container was moved to West Orange, NJ. It then sat on site at the Thomas Edison National Historical Park over the winter of 2002-2003. We ran an electric line out to the box, installed an industrial dehumidifier, a recording thermometer, and once a month went out and checked on the condition of the materials.

As we had not moved the foundation we had to construct a new one. The reason that the barn was relocated within 10-feet of the original location is that in the time since it had been moved to Michigan that an underground archival storage vault had been built to house Edison's papers. There was no consideration to move the vault over a few feet, and to move the foundation of the barn out of the way made good common sense. A nice square and well laid out concrete foundation with embedded heating and power was constructed on the site.

Eventually it came time to reconstruct the barn and, as the frame was laid out to the concrete foundation, we learned another important lesson in historic restoration work—one that we continue to learn over and over, that old buildings were never built square to begin with. So, there were a few pieces

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added here and there to make up the difference. But there was another bigger lesson learned—that in forming the dream-team at the beginning of the project we had to keep the end in mind, and that key members of the team in the *deconstruction* had to also be involved in the *reconstruction*. It is a case of acquiring, retaining, and transmitting intimate knowledge of a project, and of an architectural element from start to finish. As has been said of Edison, though he invented the incandescent light bulb, his greatest invention was actually the research laboratory. For our team, this experiment one-hundred years after the barn was first built, not only brought up issues of trades work, or interface with historic fabric and heritage culture, but an investigation of project management and just what it means for the hands-on application of historic preservation philosophy.

Once we were finished with our work on the barn the roof was covered over with quite modern and not traditional EPDM (black rubber) roof, and the interior walls covered with a layer of non-traditional plywood. Though some have expressed to me an opinion that this is a shame, I do not consider it to be so. One day I got to sit in Edison's chair at his desk in his office. It is not something that very many people are allowed to do. I have always been an avid student of science, and I love and collect books. Here I sat in Edison's chair and I looked out on the library that was his office and I thought to myself, "Wow, here is Edison's brain!"

I have not been to the site since we completed our work, but it is my understanding that it is used as a hands-on interpretation space for the thousands of school students and families who visit the site in order for them to get a better feel of the historic importance of this built environment, and a feel for Edison's vision. From an historic preservation perspective, from a museum perspective, from an archival perspective the existing extant structures at the Thomas Edison National Historical Park cannot be allowed to be mishandled or damaged by use, they cannot be carelessly tainted.

Though I sat in Edison's chair, very briefly, the public is only allowed to look through the doorway into the office. Laboratory Building #11 though it is original to the site, the fact that it has twice been deconstructed and reconstructed makes it in some sense no longer an historic artifact, leastways not until it has sat where it now sits for say three decades, and as such is sacrificial to continue to live on and actively participate in the experiment of enlightening future generations of the world. It is there ready and able to make new history.

Since my work on this project I have been involved in a few

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other Edison related projects in New Jersey. My son and I provided field assistance and logistics to the design team for the condition investigation of the Edison Memorial Tower in Menlo Park. We were also involved in assisting a private property owner in Franklin, NJ to develop local interest in a school building that had been formerly located on Sparta Mountain in connection with Edison's iron mine, the New Jersey and Pennsylvania Concentrating Works and in connection with the Ogden Mine Railroad. The building, which had been used as a Hungarian church after movement from Sparta Mountain, was subsequently acquired by the Franklin Historical Society and moved once again to serve as a museum preserving the myriad cultures that played a role in the region's rich mining and industrial history.

In 2008 I gave a public presentation on the barn project at a historic restoration conference in Kraków, Poland. The general reaction of the audience is that Americans are crazy to save old barns. My impression is that in the Polish vision nothing in America is old enough to be worth saving—though I was asked by a high school teacher if I would share my presentation that she could teach it in her history classes. Lastly, at the gravesite of Thomas and Mina Edison at Glenmont there are two stone lanterns that were gifted by the Japanese. It was my responsibility to move them from elsewhere in the park and locate them at the gravesite.

I have been in the business of contract work for more than forty years, with the last thirty being a focus specific on historic restoration work in the NYC metropolitan region. My trade background is in stone masonry, though over the years as a contractor and project consultant I have been involved with a whole host of different aspects of heritage conservation work. My current activity, in partnership with my son David Follett, is primarily to assist structural engineers, architects, and architectural conservators in their in-field hands-on investigation of historic structures. We also take on the occasional special works project. My interest in Edison and things electric comes from how my step-grandfather, step-father, and my brother, have all made their living as electricians. Further back in time a direct ancestor was the electrician on-board for laying of the 2nd Trans-Atlantic cable. When I had my years of electrical work, starting summers at the age of fourteen, I quickly earned the nickname of Sparky. One of these days I hope to be asked to work on a Tesla project where I can best put my good name to use.

