

THE NATIONAL  
**IRON & STEEL**  
HERITAGE MUSEUM

# BOILERPLATE

Summer 2022



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## Our Mission

The National Iron & Steel Heritage Museum is a not-for-profit educational institution whose mission is to promote an understanding of the iron and steel history of Coatesville, Chester County, Southeastern Pennsylvania and the region to audiences of all ages and interests by collecting, preserving, exhibiting and interpreting iron and steel's history and its relationship to the region and nation beyond.

## PRESIDENT'S MESSAGE

Summer is the best time around The National Iron & Steel Heritage Museum. On my frequent walks around the grounds, I see roses and hydrangeas in full bloom, and the towering trees providing a full canopy of shade.

Visitors might notice that a new seedling tree has replaced the old 250+ year Sycamore that died last spring. It will be fun to take pictures with this new tree, especially considering how relatively quickly Sycamores grow and how they typically live for decades. For a short time, you will be able to say that you were taller than a Sycamore!

Not far from our Visitor Center are enclosed herb and vegetable gardens beginning to produce. A Victorian flower garden is also being planted as an Eagle Scout project. In the backyard of Graystone, we have begun the restoration of the grounds to eliminate the relentless climbing English vine and replace it with non-creeping groundcover. Once removed, a fountain spring / water feature will once again be the centerpiece of property.

The warmer months have also brought

a surge in visitors from both near and far who are interested in seeing all that NISHM has to offer. This is truly a rewarding time – and a good time to thank our stakeholders: our donors, staff, volunteers and especially our members and guests. For without them, nothing would be accomplished nor enjoyed.



Scott G. Huston

Other news worth mentioning is our continued focus on educational offerings online and in person. A big part of that is researching new inductees to the National Iron and Steel Hall of Fame; the latest is Samuel Nutt, an important colonial ironmaster in Northern Chester County. We were also very happy to work with Barbara Cohen, the driving force behind the Schuylkill River Heritage Center, who is helping preserve another part of Phoenixville's history: wood patterns once used by the Phoenix Iron & Steel Co. Some of the patterns originally found in P.I.&S.C. Foundry Building were donated to NISHM. We look forward to displaying them in the near future.

## EXECUTIVE DIRECTOR'S REPORT

Did you know that the National Iron & Steel Heritage Museum (NISHM), became a National Historic Landmark on April 19, 1994? National Historic Landmarks (NHL) are buildings, sites, properties or districts that have been determined by the Secretary of the Interior to be nationally significant in American history and culture.

Our property encompasses four historic buildings and is known as the Lukens National Historic District on the National Register of Historic Places, the official

list of the federal government that recognizes a site as worthy of protection. We are proud to have our Lukens property recognized by this important federal program, especially when you consider its place among other NHLs that are so well known such as Mount Vernon and Pearl Harbor.



Jim Ziegler

The National Iron & Steel Heritage Museum is a project of the Graystone Society, Inc., a 501(c)3 public charity registered with the Pennsylvania Bureau of Charitable Organizations. Contributions are tax deductible to the extent permitted by law.

National Iron & Steel Heritage Museum, 50 S 1st Ave, Coatesville, PA 19320 | 610-384-9282



## COATESVILLE'S HIGH RAILROAD BRIDGES

The High Bridge spanning the West Branch of the Brandywine has long been a familiar sight. That was also true for the bridge's many earlier incarnations. An illustration of the first railroad bridge (shown at right) was first drawn for use on a banknote for the Bank of Chester Valley.

Coatesville had two railroads by the 1860s but the rail line that crossed Brandywine was the first. Known as the Philadelphia and Columbia Railroad (P&C), the company was established in 1828 by an act of legislature by the Pennsylvania General Assembly. State officials wanted to keep pace with the Baltimore & Ohio Railroad and so a patchwork of primitive railroads were quickly built across the state linking to a developing canal system along the Susquehanna.



The speed in which the railroad was built meant that the first bridge to span the Brandywine was fairly crude by latter-day standards. The single-track bridge was of timber construction on stone piers when it opened in 1832. The bridge was widened to a double track in 1854, and then completely replaced with a six-span bridge with cast iron supports in 1867.



Pictured left is a subsequent bridge built in 1890 using a stronger material – wrought iron – and a support system known as the Pratt truss. This was a common configuration for railroad bridges, and it served Coatesville for a little over a decade. The state's canal-and-rail system had failed by then and the Pennsylvania Railroad was the dominate force, having absorbed the state's railroads including the P&C.

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In Coatesville, preventing bottlenecks became a chief concern and thus a new bridge was proposed to accommodate a four-track railroad. During the construction of the High Bridge – still the highest bridge on the Philadelphia division – the old double-track bridge remained in use and new bridge foundation was built just south of it. The High Bridge took several years to build – from 1902 to 1904 – and was celebrated for its viaduct-like engineering. It was built of solid masonry with ten arches spanning 934 feet across the Brandywine.

Although the PRR was constructing iron trestle bridges at the time including one in Downingtown, the railroad's chief engineer,



William H. Brown, was a promoter of masonry arch bridges. Despite being more expensive to build, Brown believed that stone bridges were stronger, and he anticipated a long-lasting bridge in Coatesville.

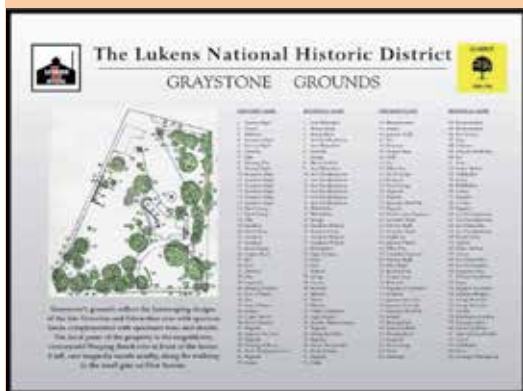
Brown proved to be right, of course. Except for a few improvements such as a concrete parapet, the High Bridge has withstood the test of time. It was placed on the National Register of Historic Places on March 26, 1976.

*Thank you to NISHM board member Albert Giannantonio for kindly provided his research and extensive knowledge of railroads to this story.*



*The Broadway Limited heads East over the High Bridge.*





*Clockwise from left:*  
 Graystone Mansion grounds map; a wedding being held under the branches of the Weeping Beech; a Magnolia in bloom next to Terracina; the rose garden near Brandywine Mansion



## EXPLORE NISHM'S GROUNDS THIS SUMMER

Summer is a perfect time to visit the National Iron & Steel Heritage Museum, especially for visitors interested in landscape architecture and horticulture. The former owners of Graystone and Terracina planted specimen trees and shrubs, many of which survive today. Visitors can read about the plantings on three illustrated markers found on the grounds.

Several of the hardwood trees planted in the early part of the century were favored landscape features for bringing color accents to the garden, such as the copper-leaved European Beech and the Upright Golden Elm. Other trees were once considered exotic – the Japanese Yew, the Japanese Tree Lilac, and the Ginkgo tree to name three – but may be familiar to visitors today.

We know the most about Graystone's landscaping, mainly because the home served as Coatesville's City Hall for many years. During the 1930s, two city officials were tasked with the job of maintaining the public park. They were also the authors of a published garden guide

that included many details on what they called the park's "priceless specimens." One example: the Weeping European Beech on the grounds is now estimated to be more than 100 years old. It was similarly unique in the 1930s. According to the garden guide, Longwood Gardens offered to purchase the beech for \$3,000.

The stately Sycamore trees lining First Avenue may have stood when Terracina was occupied in the 1870s, but their continued growth may have something to do with the proximity of the Brandywine. Sycamores, along with Canada Hemlock, grow best in areas where water is available year around.

Finally, visitors may discover that there is a Southern feel to the grounds, especially around Terracina where there are examples of dogwood, wisteria, mulberry, and magnolia trees. Several of the largest types of Flowering Lily Magnolias were said to have been planted by Charles Lukens Huston as a tribute to his wife and in-laws who were from Savannah, Georgia.



# RECENT TOUR GROUPS - CASH & HOME SCHOOL GROUP

June was a busy month for NISHM. The end of the school year meant visits from school groups including students from the Coatesville Area Senior High School (CASH) and a large group of homeschoolers from the Coatesville area.

The CASH students, who were taking part in a unique program on historic preservation, are shown here gathered at Graystone where they were given a personal tour by our executive director, Jim Ziegler. Jim and other NISHM tour guides typically tailor their presentations according to a group's size, interest, and needs. As a result, visiting students may learn about the early iron industry as it relates to such curriculum topics as America's Industrial Age.

The homeschoolers, pictured in the LEOB lobby, enjoyed our video presentations and were amused to learn about such early industry terms as "boilerplate" and "pig iron." The former now applies to generic text or "fine print" but the latter term is lesser known. It dates to a time when molten iron was poured into sand casts that were linked together and resembled a litter of suckling pigs.



# UPCOMING EVENTS

Town Tours & Village Walks  
July 21, 5:30 to 7 pm



Chester County Day  
October 1, 10 am to 5 pm



Coatesville Remembers 9/11  
September 11, 8:30 to 11 am





## PIECES FROM PHOENIXVILLE'S PAST

The Schuylkill River Heritage Center has donated a collection of wooden patterns made by the Phoenix Iron & Steel Company. Pictured arriving at NISHM on June 23rd are (clockwise from top left) a mold for lightposts on the Golden Gate Bridge, molds for railroad switches, sand-mold box sides used in making iron castings, a truckload of molds arriving at NISHM's 120" Mill building. The artifacts were originally saved during the restoration of the Phoenix Iron & Steel's Foundry Building. Known today as the Phoenixville Foundry, the building offers 18,000 feet of meeting space, in addition to housing the Schuylkill River Heritage Museum.



## IN MEMORIAM

Sadly, each year sees the dwindling of a group called the "Greatest Generation." The same is true for an even smaller group of World War II veterans – the female defense workers who joined the workforce to replace the men who went off to war. One woman who rose to the challenge at Lukens, Margaret E. Miller, was a 2021 Iron & Steel Hall of Fame inductee. She died this past May just short of her 101th birthday.

Featured in *Boilerplate* after her induction into the Hall of Fame, Margaret was cited as the inaugural crane operator in the 120" mill that was built in 1942, by the U.S. Navy and leased to Lukens. A 1939 graduate of Coatesville's former S. Horace Scott High School, Margaret was barely out of her teens when she became the first female operator of a giant 100-ton mill crane.

Margaret had been married for 59 years to Amos H. Miller when he died in 2000. She lived most recently at the Garden Spot Village in New Holland, but was a longtime resident of Sadsburyville and owned a dress shop there for more than 30 years. She retired at the age of 80 and spent her retirement years enjoying her family including her four grandchildren and seven great-grandchildren.





## KAREN NEUHAUSER

New board member, Karen Neuhauser brings what she calls a steel worker's perspective to the job. The Coatesville native knows the steel industry through her family's business, American Roll Suppliers Inc., a custom metal fabrication and machining business.

Last year, Karen celebrated 30 years as owner of the company, which her father, Vincent Neuhauser, began during his final years at Lukens when he often bought up old, obsolete equipment such as those in the blacksmith shop, Karen recalls.

Karen joined her father's company in the early 1990s. She developed her skills with manual machinery and earned a Bachelor of Science degree from Immaculata. Later, her lifelong love of all things mechanical led her to pursue an associate degree in mechanical engineering technology from Delaware Technical Community College. Karen studied at night while raising a daughter and working for her father.

Despite her busy work schedule, Karen says she has always found the time for community work and for her hobbies – gardening, birding, and crochetwork.

## PATTI HUDOCK

Patti Hudock recently returned to NISHM to volunteer as a greeter – she meets the Saturday visitors who come to tour the grounds & buildings.

Patti was once a volunteer in our museum shop, but she also has a history with Lukens. Her father had a 40-year career at Lukens, much of it as an accountant in the tax department. Her mother was a secretary in sales in the 1950s before she became a full-time mother, and Patti's grandfather, brother and two great-uncles also worked at Lukens.

Patti herself worked at Lukens, doing data entry in the former offices on Strode Avenue. When that job ended, she had a long career as an office worker with the Coatesville Water Authority and most recently with Pennsylvania American Water.

Patti's recent retirement prompted her to change things up. She sold her Coatesville house and moved nearby to Valley Township, and she began volunteering to give back to her hometown. On weekdays, she works part-time at the Coatesville Public Library, but she says she is looking forward to enjoying her retirement with a trip to Maine this summer with her son and his family.



# 2022 REBECCA LUKENS AWARD

On June 2nd, for the second time in the long history of the annual Rebecca Lukens Award, the ceremony was conducted virtually by Zoom, although as the photos here suggest, several former RLA honorees came to the in-person event. Pictured at top right is this year's recipient, Lorna Stuart, a physician, and founder of The Clinic in Phoenixville, who is shown with board president Scott Huston. Pictured below: Lorna stands with two past RLA honorees, Barbara Cohen, (in blue) a community leader in Phoenixville and a 2016 recipient, and Sandra Momyer, the former executive director of Historic Yellow Springs, Inc. who was honored in 2019.



## THANK YOU TO OUR SPONSORS



Peter & Ruth Nunn



# THANK YOU TO ALL OUR FRIENDS WHO CONTRIBUTED TO OUR 2021 ANNUAL APPEAL

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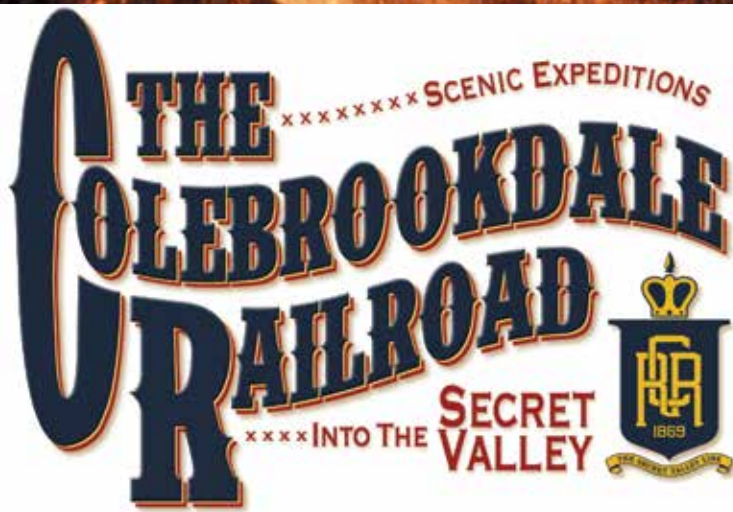
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Elinore Zaplitny

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WE COULDN'T DO IT WITHOUT YOU!





<https://www.colebrookdalerailroad.com>

Based in Boyertown, Pa., this railroad is the only excursion train in the region that highlights the oldest iron-making sites of North America. The Colebrookdale Railroad Preservation Trust works to find new ways to tell that story such as their focus on the Secret Valley, a quiet, sheltered course along the Manatawny and Ironstone Creeks. Trains depart Boyertown and travel south to the historic site of Pine Forge. Ride in comfort in the authentic period parlor and lounge or ride in an open car that offers nearly 360-degree views of surrounding scenery.

Passengers taking any one of the heritage trains from the train-centric complex of Strasburg, not only get to see scenic farmland of Lancaster County, they get to enjoy an authentic steam railroad and the oldest continuously operating railroad in the western hemisphere. Chartered in 1832, the Strasburg maintains the nation's largest operating fleet of historic wooden passenger coaches. Five of its eight steam locomotives are operational and beautifully restored with First Class, Coach, dining, and open air railcars to transport you on a 45-minute ride to Paradise, Pa. There is even a full-sized "Thomas the Tank Engine" steam locomotive and several specialty excursions such as a in-cab, hands-on ride for a total immersive experience.



[www.strasburgrailroad.com](http://www.strasburgrailroad.com)

**WEST CHESTER**

**RAILROAD**

WEST CHESTER, PENNSYLVANIA

<https://wcrailroad.com>

The privately-owned West Chester Railroad offers 90-minute train rides between its depot at Market Street in West Chester and a historic train station in Glen Mills, Pa. See the group's web site for information about the train schedules including the summer picnic trains that run at 12 noon each Sunday through Sept. 12.

The all-volunteer staff are part of a knowledgeable and dedicated group called the West Chester Railroad Heritage Association, which ran its first scenic train excursion on September 21, 1997. The railroad line had been inactive for more than a decade, but thanks to the nonprofit group, the tracks were rebuilt and restored back into use.



*The annual flowering of the Peony Walk behind Terracina is an event visitors look forward to each year.*