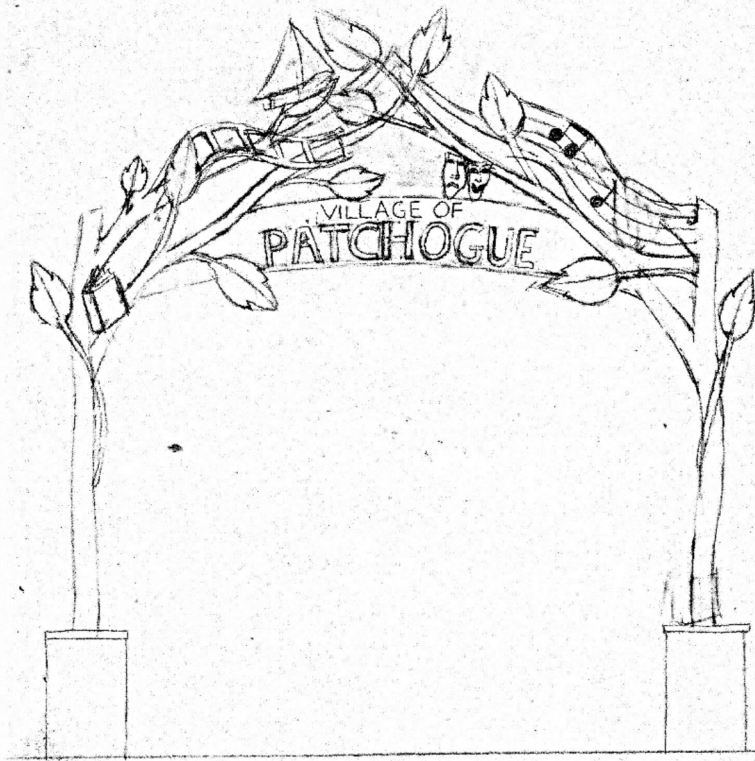


Creating the Roe Archway

Bringing History and Beauty to the Streets of Patchogue

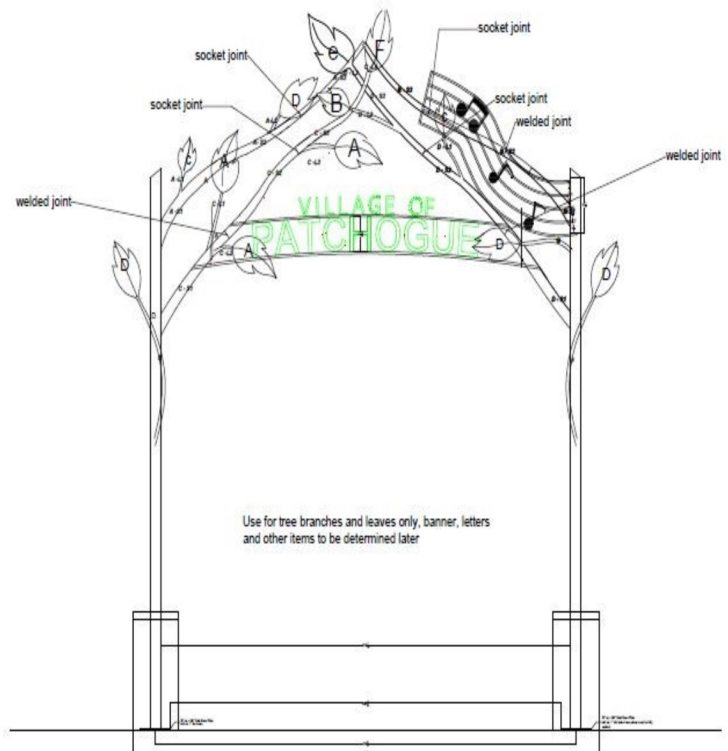


In 2015, Spirit Ironworks, Inc. was approached by The Patchogue Community Development Agency and The Greater Patchogue Chamber of Commerce with the request to design and build an artistic archway for the Patchogue community. The arch would be an addition to an already renovated Roe Walkway which has been designated as “*the pathway connecting arts in Patchogue*” by its local mayor, Paul Pontieri.



Wanting to reflect the community’s historical significance as well as bolster its current artistic identity, designer Rachel Miller went to work sketching several designs. The drawings were then presented to the CDA . This adjoining sketch represents the chosen design. It includes a number of elements which were intended to celebrate the richness that Patchogue Village has to offer. These objects included a sailboat which celebrated the history of The Great South Bay and Patchogue’s master boat makers, as well as a filmstrip, music staff, and Janus masks that represent Patchogue’s vibrant arts community.

As designed, the arch stands at 22’ tall X 20’ wide. It was made using almost 3 tons of steel and contains over 50 individual forgings. In order to build the arch, our craftspeople had to employ their skills, both modern and traditional. This included everything from blacksmithing, CNC waterjet cutting, and modern metal fabrication techniques. It was designed and built to bolt together for ease of installation using hidden mortise and tenon joints in the upper branches. Overall, it was one of the largest and most complex jobs executed by Spirit to date, taking over 600 man hours to complete.





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The fabrication process began with our craftspeople forging the archway's large leaf branches. This was an intensive, multi-step process which involved the tapering, bending, texturing, and fitting of both steel pipe and solid steel. In order to heat and work such large sections of pipe, a 1 million BTU natural gas forge was used. Special dies were made for the power hammer to taper the pipe efficiently. The heavy weight of the pieces necessitated the use of an overhead crane. Their bulkiness required the use of 2 smiths to handle them effectively.



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Creative problem solving is a large part of what we do at Spirit Ironworks. For example, when planning the leaf fabrication process, we decided to have each individual leaf waterjet cut out of steel plate. We then built special tooling in house which allowed us to vein and shape the leaves cold. This saved us from having to work with large, and extremely hot pieces of steel sheet which would have been grueling for our smiths. The results were the creation of beautifully contoured leaves.





In contrast to the leaves, the copper Janus masks were formed entirely by hand using hammers and stakes. This is a traditional process generally known as Repoussé. While the rest of the arch was composed of steel, we chose to make the masks out of copper due to its ease of workability and beautiful color.





Here are some close-up pictures of a few of the design elements presented in the arch. Many hours went into planning their correct positioning and attachment points. Rachel had to visit the shop floor many times to help our smiths work out these small, yet important details.



The arch's banner consists of 2 rolled solid steel bars with lettering welded between them. This created a very stiff truss that helped support the arch. The individual letters were cut using CNC waterjet cutting. They were then laid out over a full scale paper plot. Once in position, each letter was welded into place.

Given the arch's scale, it had to be assembled outside of our studio. Once fully put together, we ascended a lift to examine the arch for any construction and/or design issues. The arch was then disassembled and transported to our finisher where it received a zinc flame sprayed coating to prevent rust from damaging the artwork. It was then painted solid black and delivered back to us for additional artistic finishing. Our finishers then went to work, adding various highlights of color using a dry brush painting method. The results were striking!





The final install was contracted out to Dymond Industries located in Medford, NY. Our crew members assisted in the installation because no one understood the arch's unique construction better than Spirit Ironworks. Finally, the arch was skillfully lifted and put into place using a crane. Remarkably, the arch lined up to its anchor bolts perfectly on its first try due to the skill and experience of the installation crew. The arch was now ready for all to enjoy for many years to come!





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